

AN EVALUATION OF THE JANITORIAL SERVICE
OF TWELVE ALABAMA HIGH SCHOOLS

BY

BEN S. COPELAND

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Chapter I

Introduction

In the last decade tremendous progress has been made in the material equipment of the schools. The United States is spending over three hundred million dollars a year in order that schools may be housed in comfortable, well-equipped buildings.¹ School administrators and teachers have grown professionally as never before. The janitor, however, enjoys practically the same status he occupied fifty years ago in cities of less than thirty thousands.² Reeder maintains that "in no sense has the development of the janitorship kept pace with the development of other aspects of the school."³

It is of first importance that school officials provide adequate building facilities in which to carry on modern school programs. Yet, it is equally as important to see that these buildings are properly operated and cared for. Leading authorities in this field believe that the "adequate care of property is as pertinent as insurance."⁴

1. Reeves, C. E. and Ganders, H. S., School Building Management, p. 5.
2. Dalthorp, C. J., "How to Improve Janitorial Service in the Smaller City Schools, The Nation's Schools, Vol. VI, No. 1, July, 1930.
3. Reeder, W. G., The Business Administration of a School System, p. 253.
4. Engelhardt, N. L. and Fred, Public School Business Administration, p. 344.

In emphasizing the importance of the janitor Cubberley says, "Outside of the principal, no one has more influence over the physical well being of the children in the school than has the janitor."¹ Elaborate health programs have been set up, splendid supervisory programs have been initiated, and increased insurance premiums have been paid, while one of the determining factors of all these, the janitorial service, has almost been completely ignored.² Smith suggests that while janitorial service is second only to the teaching function and that it is a necessary auxiliary to it, the administrative aspects of janitorial service have failed to receive the attention they merit.³

Problem

Several school surveys of various counties in Alabama have called attention to inadequate janitorial conditions found and have suggested that improvements be made.

The purpose of this study is to determine the facilities provided for janitorial service and the quality of service performed by the janitors in twelve high schools of Northeast Alabama.

Scope of the Study

There are two plans by which janitorial service may be measured. One plan measures the school building for

1. Cubberley, E. P. The Principal and His School, p. 209
2. The Nation's Schools, Vol. VI, No. 1, 1930.
3. Smith, H. P., Business Administration of Public Schools, pp. 198-9.

the purposes of determining the number of men, or the man-power, required to care properly for the building. The other plan seeks to check the facilities provided for janitorial service by the board of education and the quality of work performed by the employees. This study will be limited to the second plan, and will undertake to determine the condition of janitorial service in the twelve high schools selected through answers to the following questions:

1. How is janitorial service administered?
2. What is the personnel of the janitorial service?
3. What are the building facilities for janitorial service?
4. What amount of work is required per janitor?
5. How adequate is the daily cleaning of floors?
6. What is the efficiency of dusting?
7. Is scrubbing and mopping adequately done?
8. Is oiling of floors properly done?
9. Are woodwork and furniture satisfactorily cleaned and polished.
10. Is the washing of glass done in a haphazard manner?
11. Are toilets properly cleaned?
12. To what extent is blackboard cleaning adequate?
13. Do the schools have efficient systems for cleaning of erasers?

14. How adequate is other cleaning done?
15. What are the facilities for heating and ventilating and how are they cared for?
16. What special work does the janitor do?

Sources of Data

In order to answer the questions raised, the schools were scored by a committee of three school men of fifteen or more years' experience. The writer was a member of this committee. The median score of the three was used. The Engelhardt-Reeves-Womrath Score Card for Public School Janitorial Engineering Service was used for the survey.

Before scoring the schools the committee made a thorough study of Standards for Public School Janitorial Engineering Service which was written by the authors of the score card used. All the schools were scored in the spring within two consecutive weeks with the view that conditions might be more nearly common than would be the case if some were scored in the fall and others in the winter or the spring.

Schools Included in the Study

The four city high schools were selected with the advice of the Seminar in Educational Administration and Supervision in the summer of 1930. The eight rural high schools were selected as typical of Northeast Alabama at

the suggestion of the Secondary Division of the State Department of Education, Montgomery, Alabama. Both the city and rural high schools are located in the following counties: Calhoun, Etowah, Blount, Dekalb, Marshall, Morgan, and Madison. In order that no one be embarrassed by this study, it was thought wise to refer to the schools by letter. Table 1 shows the letter designation, type, enrollment, and nature of the community served by the school, of the twelve high schools in Northeast Alabama.

Table 1

Letter Designation, Type, Enrollment, and
Nature of Community Served of Twelve High
Schools Studied

Letter of Designation	Type of School	Enrollment	Nature of Community Served
A	City	850	City of 24,042
B	City	460	City of 22,345
C	City	440	City of 11,554
D	City	261	City of 15,593
E	Rural	387	Town of 2,716 and Rural
F	Rural	226	Town of 425 and Rural
G	Rural	212	Rural
H	Rural	182	Town of 1,098 and Rural
I	Rural	181	Rural
J	Rural	172	Town of 2,204 and Rural
K	Rural	139	Village and Rural
L	Rural	99	Rural

The first four high schools shown in Table 1 are city high schools. The next four are somewhat representative of the large rural high schools, and the last four are somewhat representative of the small rural high schools, although the break is not great until the last two are reached.

Chapter II

Status of Janitorial Service

Administrators pursue courses in supervision, school administration, finance, and the like to improve themselves as school officials and managers.

"But how many of them have taken a course in janitorial supervision, janitorial training, or janitorial techniques? Not many. Yet it must be admitted that the janitor's work has a direct effect upon teaching efficiency. It influences the health of the child, and to a large extent determines insurance costs."¹

Womrath asserts that "school administrators have been absorbed in so many other matters that they have failed to give the janitorial problem proper consideration."²

Smith says that "the score card may be used ... to study objectively and analytically the adequacy of the service given in a school building or a school system."³ He has reference here to the Engelhardt-Reeves-Womrath Score Card for Public School Janitorial-Engineering Service. As has already been mentioned in the Introduction, this was the score card used in the present study. The scores of the twelve high schools are shown in Table 2.

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1. The Nation's School, Vol. VI, No. 1, July, 1930.
 2. Womrath, G. F., American School Board Journal, Vol. 69, No. 6, Dec., 1924.
 3. Smith, H. P., Business Administration of Public Schools, p. 212.

Table 2
 Ratings of Janitorial Service in
 Twelve High Schools of Northeast Alabama

School	Score	Per cent
C	613	61.3
J	560	56.0
A	534	53.4
D	521	52.1
H	489	48.9
B	450	45.0
E	453	45.3
G	348	34.8
L	324	32.4
I	321	32.1
F	307	30.7
K	218	21.8
Average	428.2	42.82

It is shown in Table 2 that the range of scores is from 218 to 613. Stated another way, it means that there was a percentage range of 21.8 to 61.3. The best school checked lacked 387 scoring perfect. By a little effort this school could score over 900 points. The poorest school was 782 from standard. Since this school had no janitor, it automatically lost an opportunity to get some of the 190 points directly related to the

janitor himself. It would, of course, take considerable effort and money to bring this school up to a good score. When the officials in these schools realize that janitors have an important function in the schools, total scores on janitorial service will begin to approach more nearly the standard of 1,000.

It is interesting to note that one of the rural high schools scored above three city high schools and next to the highest score. It made this score in spite of the fact that it is an old type building that is not adequate in building facilities for janitorial service. The explanation is that the janitor has served nine years under good supervision by the principal. Reeves and Ganders say:

"The principal should make certain that janitorial-engineering functions are being carried out in such a way that they will advance the educational program. He must not depend upon occasional observations, but must make special tours of inspection with the matter of the condition of his building foremost in his mind."¹

Table 3 shows the scores of the schools when grouped as city, large rural, and small rural.

1. Reeves, C. E. and Ganders, H. S., School Building Management, p. 36.

Table 3

Comparison of the Janitorial Service of City,
Large Rural, and Small Rural High Schools

Type of School	Average Score
City	529.50
Large Rural	399.25
Small Rural	355.75

Table 3 indicates that the city high schools have an advantage over the large rural high schools of 130.25 points and an advantage of 173.75 points over the small rural high schools. The large rural high schools scored 43.50 points higher than the small rural high schools.

A more refined comparison may be made by a consideration of the scores on the major items of janitorial service. Table 4 shows this comparison.

Table 4

Comparison of the Average Scores of Various
Items of Janitorial Service of City, Large
Rural, and Small Rural High Schools

Items	Possible Score	Schools		
		City	Large Rural	Small Rural
Administration of Janitorial Service	40	29.00	24.25	18.75
Personnel	90	68.00	61.25	48.75
Building Facilities for Janitorial Service	20	10.25	2.75	4.00
Amount of Work Required per Janitor	40	30.25	23.25	26.50
Daily Cleaning of Floors	125	86.75	68.50	61.25
Dusting	80	34.50	24.75	29.00
Scrubbing and Mopping	70	7.50	6.25	13.75
Oiling of Floors	30	20.25	15.75	17.75
Cleaning and Polishing of Woodwork and Furniture	30	9.00	9.25	9.00
Washing Glass	60	31.50	20.75	20.00
Toilet Cleaning	80	43.50	27.25	26.50
Blackboard Cleaning	30	18.50	13.00	14.75
Eraser Cleaning	15	5.50	5.75	5.75
Other Cleaning	55	21.50	19.50	19.25
Heating and Ventilating	150	72.00	55.50	22.25
Special Work	85	41.50	21.25	17.75

It will be seen in Table 4 that the city high schools scored higher on every item than the large rural high schools with two exceptions. The small rural high schools had an advantage of 6.25 points on "Scrubbing and Mopping." They equalled the city in the matter of "Cleaning and Polishing of Woodwork and Furniture." They surpassed the large rural high schools on "Building Facilities for Janitorial Service," "Amount of Work Required per Janitor," "Dusting," "Scrubbing and Mopping," "Oiling of Floors," and "Blackboard Cleaning."

Table 5 is an attempt to evaluate the scores allotted to the major items of janitorial service.

Table 5

Evaluation of Scores Allotted to the Major Items
of Janitorial Service

Items Evaluated	Good		Fair		Poor		Unsatis- factory	
	Cases	%	Cases	%	Cases	%	Cases	%
Administration of Jani- torial Service	3	25.00	8	66.66	0	0.00	1	8.33
Personnel	3	25.00	8	66.66	0	0.00	1	8.33
Building Facilities for Janitorial Service	0	0.00	2	16.66	5	41.66	5	41.66
Amount of Work per Janitor	7	58.33	2	16.66	2	16.66	1	8.33
Daily Cleaning of Floors	0	0.00	7	58.33	5	41.66	0	0.00
Dusting	0	0.00	1	8.33	9	75.00	2	16.66
Scrubbing & Mopping	0	0.00	0	0.00	4	33.33	8	66.66
Oiling of Floors	1	8.33	8	66.66	3	25.00	0	0.00
Cleaning and Polish- ing of Woodwork	0	0.00	4	33.33	3	25.00	5	41.66
Washing Glass	0	0.00	3	25.00	6	50.00	3	25.00
Toilet Cleaning	0	0.00	5	41.66	5	41.66	2	16.66
Blackboard Cleaning	0	0.00	6	50.00	6	50.00	0	0.00
Eraser Cleaning	0	0.00	1	8.33	11	91.66	0	0.00
Other Cleaning	0	0.00	1	8.33	11	91.66	0	0.00
Heating and Venti- lating	0	0.00	5	41.66	4	33.33	3	25.00
Special Work	0	0.00	4	33.33	2	16.66	6	50.00
TOTAL	14		65		76		37	

Good - More than 3/4 of standard.

Fair - 1/2 to 3/4 of standard.

Poor - 1/4 to 1/2 of standard.

Unsatisfactory - Less than 1/4 of standard.

Table 5 discloses the fact that no school rated "good" on twelve out of sixteen of the items. Seven out of twelve schools rated "good" in the amount of work per janitor. Building facilities for janitorial service are "unsatisfactory" in 41.66 per cent of the schools. Special work of the janitor is "unsatisfactory" in one-half of the schools. Scrubbing and mopping is considered almost a negligible item by most of the schools. There are fourteen cases in the "Good" column, sixty-five in the "Fair," seventy-six in the "Poor," and thirty-seven in the "Unsatisfactory."

The picture of janitorial service just presented calls for more attention on the part of those who provide the facilities for janitorial service in these schools. It means that school administrators will have to give expert supervision to the janitor and in order to give this expert supervision, they will have to study the janitorial problem.

Chapter III

The Administration and Personnel of and Facilities for Janitorial Service

Administration

In a large system the superintendent of buildings and grounds usually selects, promotes, demotes, retains, or discharges janitors, with the approval of the superintendent and board of education. The janitor in a large system has a three-fold responsibility. The first is to the superintendent of schools and through him to the board of education. The second is to the superintendent of buildings; while the third is to the building principal.

It happens that the schools in this study belong to small school systems. There was a two-fold responsibility in the four city high schools observed, the one to the superintendent and the other to the building principal. In the rural high schools the principal was found to be the employer, the supervisor, or the discharger. The administration of the janitorial service in the various types of high schools is shown in Tables 6, 7, and 8.

Table 6

Scores of Four City High Schools on Administration
of Janitorial-Engineering Service

Items Scored	Perfect Score	School A	School B	School C	School D	Average Score
A. Method of Employment	5	5	5	5	5	5
B. To Whom Responsible	10	9	10	10	10	9.75
C. Tenure	5	5	5	5	5	5
D. Remuneration	10	7	5	6	8	6.50
E. Provision for Substitute Service	5	2	2	4	3	2.75
F. Uniforms	5	0	0	0	0	0
Total	40	28	27	30	31	29

Table 7

Scores of Four Large Rural High Schools on
Administration of Janitorial-Engineering Service

Items Scored	Perfect Score	School E	School F	School G	School H	Average Score
A. Method of Employment	5	5	2	5	5	4.25
B. To Whom Responsible	10	10	10	10	10	10
C. Tenure	5	2	1	2	2	1.75
D. Remuneration	10	8	6	5	6	6.25
E. Provision for Substitute Service	5	2	2	2	2	2
F. Uniforms	5	0	0	0	0	0
Total	40	27	21	24	25	24.25

Table 8
 Scores of Four Small Rural High Schools on
 Administration of Janitorial-Engineer-
 ing Service

Items Scored	Perfect Score	School I	School J	School K	School L	Average Score
A. Method of Employment	5	5	5	0	4	3.50
B. To Whom Responsible	10	10	10	0	10	7.50
C. Tenure	5	2	5	0	2	2.25
D. Remuneration	10	3	7	0	4	3.50
E. Provision for Substitute Service	5	2	4	0	2	2
F. Uniforms	5	0	0	0	0	0
Total	40	22	31	0	22	18.75

It will be observed in Tables 6, 7, and 8 that all the schools scored perfect in method of employment except schools F and K. The trustees of school F exercised the power of nominating and electing with little voice from the principal. School K has no janitor, but uses students with teacher supervision. This school will show up with zero in every item of Table 8 and Tables 11 and 14 on account of having no janitor. Since the score on responsibility is practically perfect, it may be expected that the janitorship will run with little friction.

After janitors have been trained and have proved themselves satisfactory, they should be given indefinite tenure unless it becomes necessary to dismiss them for inefficiency, immorality, insubordination, or other sufficient cause. Some of the rural schools used school boys for janitors, thereby making it impossible to make a good score on tenure.

Janitors should receive salaries sufficient to maintain their families, as it has been proved that married janitors are more dependable than single ones. They should possibly get a salary equal to or better than the elementary teacher in the system.¹ It will be noticed in the table that none of the schools received a perfect score on

1. Engelhardt, N. L., Reeves, C. E. and Womrath, G. F., Standards for Public School Janitorial-Engineering Service, p. 12.

this item and that the average score was just a little better than one-half. Provision for substitute service is rather haphazard. None of the schools used uniforms, yet one must admit that uniforms do add dignity to janitorial service and induce more orderly and efficient work on the part of the employed.

Personnel

The janitor should at least be an eighth grade graduate or its equivalent.¹ If he fails to have this educational qualification, he will not likely be capable of keeping records and making reports, of understanding written instructions, and of properly planning his work. When selected into the service the janitor should be from twenty-five to forty years of age. It has been found that this will allow time for training a man into a good janitor at an age in which he will be able to serve the school for the longest period of activity. The janitor should have good health and be free from noticeable defects.

At least one woman should be employed at each school in order to care for the girls' toilet and assist the principal when matronly duties arise. Married janitors are usually more dependable and steady than the single ones. A friendly attitude toward principal, teachers,

¹ Reeves and Ganders, op. cit., p. 13.

and pupils is a characteristic desirable in the janitor. His attitude toward his work is a determining factor in the quality of his service. He should be neat in personal appearance and have a pleasing, modulated voice. Tables 9, 10, and 11 show how the schools measured up in the matter of personnel.

Table 9
Scores of Four City High Schools on Personnel
of Janitorial-Engineering Service

Items Scored	Perfect Score	School A	School B	School C	School D	Average Score
A. Education						
1. General education	5	3	3	3	4	3.25
2. Special training	5	0	0	2	1	.75
3. Examinations for appointment	5	0	0	0	0	0
4. Experience	10	6	10	8	9	8.25
B. Physical condition						
1. Ages	5	5	5	5	5	5
2. Health	10	9	10	10	10	9.75
3. Physical defects	5	5	5	5	5	5
C. Sex of employees	2	2	1	2	2	1.75
D. Marital condition	3	3	3	3	3	3
E. Characteristics and habits						
1. Attitude toward principals, etc.	5	4	5	5	4	4.50
2. Attitude toward work	15	13	10	12	12	11.75
3. Personal appearance	7	5	5	5	5	5
4. Voice and language	1	1	1	1	1	1
5. Use of tobacco, intoxicating liquor, etc.	2	2	2	2	1	1.75
6. Moral influence on pupils	10	8	8	8	5	7.25
Total	90	66	68	71	67	68.50

Table 10

Scores of Four Large Rural High Schools on Personnel of Janitorial-Engineering Service

Items	Perfect Score	School E	School F	School G	School H	Average Score
A. Education						
1. General education	5	5	0	4	5	3.50
2. Special training	5	0	0	0	2	.50
3. Examinations for appointment	5	0	0	0	0	0
4. Experience	10	3	2	2	2	2.25
B. Physical condition						
1. Ages	5	5	5	3	1	3.50
2. Health	10	10	10	10	10	10
3. Physical defects	5	5	5	5	5	5
C. Sex of employees	2	1	1	2	2	1.50
D. Marital condition	3	2	2	0	0	1
E. Characteristics and habits						
1. Attitude toward principals, etc.	5	5	5	4	5	4.75
2. Attitude toward work	15	15	10	11	15	12.75
3. Personal appearance	7	5	5	4	7	5.25
4. Voice and language	1	1	1	1	1	1
5. Use of tobacco, intoxicating liquor, etc.	2	2	2	1	2	1.75
6. Moral influence on pupils	10	10	10	4	10	8.50
Total	90	69	58	51	67	61.25

Table 11

Scores of Four Small Rural High Schools on Personnel of Janitorial-Engineering Service

Items Scored	Perfect Score	School I	School J	School K	School L	Average Score
A. Education						
1. General education	5	5	3	0	5	3.25
2. Special training	5	2	0	0	2	1
3. Examinations for appointment	5	0	0	0	0	0
4. Experience	10	2	10	0	2	3.50
B. Physical condition						
1. Ages	5	0	5	0	2	1.75
2. Health	10	10	10	0	10	7.50
3. Physical defects	5	5	5	0	5	3.75
C. Sex of employees	2	2	1	0	2	1.25
D. Marital condition	3	0	2	0	2	1
E. Characteristics and habits						
1. Attitude toward principals, etc.	5	5	5	0	5	4.75
2. Attitude toward work	15	15	12	0	12	9.75
3. Personal appearance	7	7	5	0	4	4
4. Voice and language	1	1	1	0	1	.75
5. Use of tobacco, intoxicating liquor, etc.	2	1	1	0	1	.75
6. Moral influence on pupils	10	10	7	0	10	6.75
Total	90	65	67	0	63	48.75

One of the interesting things shown in Tables 9, 10, and 11 is that practically no provision is made for special training of the janitors. Reeves and Ganders say:

"Whatever means for the training of janitor engineers is used, the great need is for training of some sort. The day is passed when valuable buildings and equipment and the health of children can be entrusted to untrained janitors whose knowledge of their work is merely what they can pick up unaided. Economy and efficiency of service, which can be had only by the employment of specially-trained janitor-engineers, must be the objective of the officials in charge of our school buildings."¹

There should be training in service for janitors as well as for teachers.

Another point of interest is that no examination for appointment is made in any of the schools. Reeder maintains that "entrance to the janitorship should be protected with some of the circumspection shown in selecting teachers." He continues, "almost three-fourths of the school systems of the American cities select their janitors on a trust-to-chance basis."²

As a whole the eleven schools that had janitors scored almost perfect on health and physical defects. Their scores were also good in attitude toward principals, teachers, and pupils, and perfect on voice and language of janitors. The average score for all the schools was

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1. Reeves, C. E. and Ganders, S. G., School Building Management, p. 20.
 2. Reeder, W. G., The Business Administration of a School System, O. 256.

59.33 out of a possible score of 90. This score would be about five points higher if school K, which had no janitor, were left out.

Building Facilities for Janitorial Service

Given an efficient head janitor with a sufficient number of qualified assistants, the character of the janitorial service will be determined very largely by the facilities provided for the janitor. The building facilities play an important part in the general layout for the efficient work on the part of the employees. In each building the janitorial service should be provided with an office, workroom, necessary tools for housekeeping and repair work, storeroom for supplies, janitors' toilets, chute to basement for dirt and rubbish, and chimney flue for burning rubbish. By examining Tables 12, 13, and 14 one may see to what extent the twelve high schools provided for building facilities for janitorial service.

Table 12

Scores of Four City High Schools on Building
Facilities for Janitorial-Engineering Service

Items Scored	Perfect Score	School A	School B	School C	School D	Average Score
A. Office	1	0	0	0	0	0
B. Workroom	5	0	3	3	1	1.75
C. Necessary tools	5	5	4	4	2	3.75
D. Storeroom for Janitorial Supplies	5	4	3	5	3	3.75
E. Janitors' Toilets	2	0	2	0	2	1
F. Chute to Basement for Dirt & Rubbish	1	0	0	0	0	0
G. Chimney Flue for Burning Rubbish	1	0	0	0	0	0
Total	20	9	12	12	8	10.25

Table 13

Scores of Four Large Rural High Schools on Building Facilities for Janitorial-Engineering Service

Items Scored	Perfect Score	School	School	School	School	Average Score
		E	F	G	H	
A. Office	1	0	0	0	0	0
B. Workroom	5	1	2	0	0	.75
C. Necessary tools	5	0	1	0	2	.75
D. Storeroom for Janitorial Supplies	5	3	2	0	0	1.25
E. Janitors' Toilets	2	0	0	0	0	0
F. Chute to Basement for Dirt & Rubbish	1	0	0	0	0	0
G. Chimney Flue for Burning Rubbish	1	0	0	0	0	0
Total	20	4	5	0	2	2.75

Table 14

Scores of Four Small Rural High Schools on Building Facilities for Janitorial-Engineering Service

Items Scored	Perfect Score	School I	School J	School K	School L	Average Score
A. Office	1	0	0	0	0	0
B. Workroom	5	0	0	0	0	0
C. Necessary tools	5	2	4	0	1	1.75
D. Storeroom for Janitorial Supplies	5	5	2	2	0	2.25
E. Janitors' Toilets	2	0	0	0	0	0
F. Chute to Basement for Dirt & Rubbish	1	0	0	0	0	0
G. Chimney Flue for Burning Rubbish	1	0	0	0	0	0
Total	20	7	6	2	1	4

It will be noted in Tables 12, 13, and 14 that none of the schools provide an office for the janitor and that seven of the schools provide no workroom for him. The buildings, also, are wholly lacking in chutes to basements and chimney flues to burn rubbish. Only two of the schools had toilets for janitors. The city schools scored 3.75 on both tools and storerooms. This was a better score than either type of the rural schools made. The total average score of 5.67 out of 20 for all the schools indicates that boards of education have made poor provision for their janitors in the matter of building facilities.

Amount of Work Required Per Janitor

Frequently janitors are over-loaded without the school authorities knowing it. In one of the schools scored, one janitor was found trying to take care of the janitorial service with a floor area of 64,000 sq. ft. Tables 15, 16, and 17 show how the schools scored with regard to the amount of work per janitor.

Table 15

Scores of Four City High Schools According to
Amount of Work Required Per Janitor

Items Scored	Perfect Score	School A	School B	School C	School D	Average Score
A. Floor Area Per Janitor	15	0	0	15	15	7.25
B. Playground and Lawn Area Per Janitor	10	10	10	10	10	10
C. Enrolment of Pupils Per Janitor	15	11	10	15	15	12.75
Total	40	21	20	40	40	30.25

Table 16

Scores of Four Large Rural High Schools According
to Amount of Work Required Per Janitor

Items Scored	Perfect Score	School E	School F	School G	School H	Average Score
A. Floor Area Per Janitor	15	0	15	15	0	7.25
B. Playground and Lawn Area Per Janitor	10	2	10	10	10	8
C. Enrolment of Pupils Per Janitor	15	9	7	10	5	7.75
Total	40	11	32	35	15	23.25

Table 17

Scores of Four Small Rural High Schools According
to Amount of Work Required Per Janitor

Items Scored	Perfect Score	School I	School J	School K	School L	Average Score
A. Floor Area Per Janitor	15	15	15	0	15	11.25
B. Playground and Lawn Area Per Janitor	10	6	10	0	8	6
C. Enrolment of Pupils Per Janitor	15	9	15	0	13	9.25
Total	40	30	40	0	36	26.50

According to Tables 15, 16, and 17, schools A, B, F, H, and K scored zero on floor area per janitor. This means that the janitors of these schools were overloaded and consequently handicapped in the efficiency of their service. Very likely if these schools had been adequately manned, their total score would have been higher. Most of the schools were not overloaded so far as playground area is concerned. The standard is two acres or less per janitor. Seven schools had enrollments too large to make a perfect score on the item in regard to the enrollment of pupils per janitor. A pupil load of 250 is considered standard. Two points were deducted for every 50 pupils enrolled in excess of 250.

Chapter IV
Janitorial Service Somewhat Directly Related
to Classrooms

Cleaning of Floors

Perhaps the cleaning of floors is the most important job the janitor has. Formerly, it was considered he had two jobs, namely, to sweep the floors and to keep the children warm. Gradually other tasks have been assigned to him, and now he finds himself taking care of hundreds of big and little jobs. Sweeping, however, is still of primary importance. It is something that has to be done every day, and its results are conspicuous.

According to Reeves and Ganders, "methods of cleaning school building floors have changed from the old corn broom to the floor brush which is in general use today."¹ The methods, however, in the schools of this study, had not evolved to the floor brush except in three or four schools. The corn broom is still holding its own and stirring up dust to settle on the furniture, woodwork, walls, and floors. The average janitor in these schools thinks the floor brush is a thing of ornament rather than a tool for sweeping. There was one city janitor, though, that had an excellent set of floor brushes. He had one for every purpose. He could sweep an average size classroom in three minutes, whereas it

1. Reeves, C. E. and Ganders, H. S., School Building Management, p. 96.

takes the average janitor according to the standards used in this study from eight to nine minutes. The slowest janitor checked took thirty minutes per room. Tables 18, 19, and 20 give the scores of the schools on the daily cleaning of floors.

Table 18

Scores of Four City High Schools on Daily Clean-
ing of Floors

Items Scored	Perfect Score	School A	School B	School C	School D	Average Score
A. Frequency of Cleaning						
1. Classrooms & special rooms	15	12	15	11	13	12.75
2. Corridors & Stairs	8	7	4	6	6	5.75
3. Radiators	2	1	1	0	1	.75
B. Time of Cleaning	5	2	4	5	5	4
C. Effectiveness of Results	30	18	20	22	20	20
D. Average Time Required to Clean Classroom	5	5	4	5	2	4
E. Conditions Affecting Daily Cleaning						
1. Kind of Floor	5	4	4	4	4	4
2. Type and amount of furniture in each room	3	3	2	2	3	2.50
3. Size of room	2	2	2	2	2	2
F. Equipment and Tools Used for Cleaning	25	20	15	12	15	15.50
G. Treatment of Floors	15	8	7	12	8	8.75
H. Method of Procedure in Daily Cleaning	10	8	5	6	8	6.75
Total	125	90	83	87	87	86.75

Table 19

Scores of Four Large Rural High Schools on Daily
Cleaning of Floors

Items Scored	Perfect Score	School E	School F	School G	School H	Average Score
A. Frequency of Cleaning						
1. Classrooms & special rooms	15	12	10	9	12	10.75
2. Corridors & stairs	8	7	5	3	6	5.25
3. Radiators	2	1	0	0	1	.50
B. Time of Cleaning	5	5	4	4	5	4.50
C. Effectiveness of Results	30	20	10	11	25	16.50
D. Average Time Required to Clean Classroom	5	2	3	2	5	3
E. Conditions Affecting Daily Cleaning						
1. Kind of Floor	5	2	3	5	5	3.75
2. Type and amount of furniture in each room	3	2	3	2	3	2.50
3. Size of room	2	1	2	1	2	1.50
F. Equipment and Tools Used for Cleaning	25	15	8	12	5	10
G. Treatment of Floors	15	5	5	7	5	5.50
H. Method of Procedure in Daily Cleaning	10	4	3	4	8	4.75
Total	125	76	56	60	82	68.50

Table 20
Scores of Four Small Rural High Schools on Daily
Cleaning of Floors

Items Scored	Perfect Score	School I	School J	School K	School L	Average Score
A. Frequency of Cleaning						
1. Classrooms & special rooms	15	12	12	8	12	11
2. Corridors & stairs	8	4	5	4	4	4.25
3. Radiators	2	0	1	0	0	.25
B. Time of Cleaning	5	5	5	4	1	3.75
C. Effectiveness of Results	30	15	20	12	15	15.50
D. Average Time Required to Clean Classroom	5	2	3	2	2	2.25
E. Conditions Affecting Daily Cleaning						
1. Kind of Floor	5	2	3	2	2	2.25
2. Type and amount of furniture in each room	3	3	3	1	3	2.50
3. Size of room	2	2	2	2	2	2
F. Equipment and Tools Used for Cleaning	25	5	10	8	5	7
G. Treatment of Floors	15	5	5	8	8	6.50
H. Method of Procedure in Daily Cleaning	10	5	8	3	5	5.25
Total	125	60	77	54	54	61.25

By examining Tables 18, 19, and 20, it may be seen that the average scores on frequency of cleaning classrooms, time of cleaning, and size of room are good. On all other items, though, the average scores range from poor to fair. The equipment for cleaning is meager in several of the schools, especially schools F, H, I, and L. Their principal sweeping implement was the corn broom, which is the least effective means for daily cleaning. The authors of the standards used in this study say, "The corn broom cannot sweep clean no matter how it is used."¹ The effectiveness of sweeping might be improved in schools, F, G, and K by closer supervision on the part of the principals.

Dusting

It is refreshing to go into a school that feels that cleanliness is next to godliness. Systematic, effective dusting lends an enchantment to school atmosphere that many janitors have not learned to appreciate. Dusting is important not only from an esthetic standpoint but also from the standpoint of the health of the pupils and teachers. Dust irritates the eyes and respiratory system. Sore throats and colds are frequently the result of dust floating in the air of the schoolroom. The dust that settles on the desks and books may be transferred to the eyes, nose, and mouth by the hands. Since children

1. Engelhardt, N. L., Reeves, C. E., and Womrath, G. F., Standards for Public School Janitorial-Engineering Service, p. 24.

come from all sorts of homes, it is all the more important that the school exercise all precautions to safeguard the health of the pupils attending. Adequate dusting is one of the means of promoting the health of the children.

It was found that janitors did very little dusting, the job being done by teachers and pupils principally. Belser holds that "however small the average teacher's salary may be, it is false economy to use the time which should be devoted to planning her work in the cleaning of the school building."¹ The work of dusting is distinctly a janitor's job, However, the scores shown in Tables 21, 22, and 23 would have been much lower had it not been for the dusting done by pupils and teachers.

1. Belser, Danylu, Conditions and Practices Influencing the Elementary Education of White Children in the Public Schools of Alabama, p. 133.

Table 21

Scores of Four City High Schools on Dusting

Items Scored	Perfect Score	School A	School B	School C	School D	Average Score
A. Frequency of Dusting						
1. Classrooms and special rooms	6	2	3	2	1	2
2. Woodwork	5	2	1	3	1	1.75
3. Walls and Ceiling	3	1	0	0	3	1
4. Wall pictures, window shades, etc.	3	0	0	0	1	.25
5. Radiators and space beneath them	3	1	1	1	1	1
B. Time of Dusting						
1. Classrooms	6	2	2	5	1	2.25
2. Woodwork	5	2	2	2	1	2.25
3. Walls and Ceiling	3	1	1	0	2	1
4. Wall pictures, window shades, etc.	3	0	1	0	1	.50
5. Radiators	3	1	1	1	1	1
C. General Effectiveness of Dusting	15	10	8	10	7	8.75
D. Average Time Required to Dust 40 Pieces of Classroom Furniture	2	2	1	1	1	1.25
E. Conditions for the Prevention of Dust in Rooms	5	2	1	2	2	1.75
F. Tools and Appliances for Dusting	10	6	3	6	7	5.50
G. Tools and Appliances for Dusting Walls, Ceilings, etc.	4	3	1	1	3	2
H. Treatment of Dusters	2	1	0	0	1	.50
I. Method of Procedure in Dusting	4	3	2	1	2	2
Total	80	39	28	35	36	34.50

Table 22

Scores of Four Large Rural High Schools on Dusting

Items Scored	Perfect Score	School E	School F	School G	School H	Average Score
A. Frequency of Dusting						
1. Classrooms and special rooms	6	1	1	1	2	1.25
2. Woodwork	8	4	1	1	2	2
3. Walls and Ceiling	3	2	0	0	0	.50
4. Wall pictures, window shades, etc.	3	0	0	0	1	.25
5. Radiators and space beneath them	3	1	0	0	1	.50
B. Time of Dusting						
1. Classrooms	6	1	1	1	5	2
2. Woodwork	5	4	1	1	4	2.50
3. Walls and Ceiling	3	0	0	0	1	.25
4. Wall pictures, window shades, etc.	3	0	0	0	1	.25
5. Radiators	3	0	0	0	1	.25
C. General Effectiveness of Dusting	15	5	3	8	10	6.50
D. Average Time Required to Dust 40 Pieces of Classroom Furniture	2	1	0	1	1	.75
E. Conditions for the Prevention of Dust in Rooms	3	1	1	2	2	1.50
F. Tools and Appliances for Dusting	10	5	3	2	8	4.50
G. Tools and Appliances for Dusting Walls, Ceilings, etc.	4	1	0	0	0	.25
H. Treatment of Dusters	2	0	0	0	0	0
I. Method of Procedure in Dusting	4	2	1	0	3	1.50
Total	80	28	12	17	42	24.75

Table 23

Scores of Four Small Rural High Schools on Dusting

Items Scored	Perfect Score	School I	School J	School K	School L	Average Score
A. Frequency of Dusting						
1. Classrooms and special rooms	6	2	3	2	2	2.25
2. Woodwork	5	2	2	1	1	1.50
3. Walls and Ceiling	3	2	2	1	0	1.25
4. Wall pictures, window shades, etc.	3	0	0	1	0	.25
5. Radiators and space beneath them	3	0	1	1	0	.50
B. Time of Dusting						
1. Classrooms	6	4	3	2	2	2.75
2. Woodwork	5	2	2	1	2	1.75
3. Walls and Ceiling	3	2	2	1	0	1.25
4. Wall pictures, window shades, etc.	3	0	0	0	0	0
5. Radiators	3	0	0	0	0	0
C. General Effectiveness of Dusting	15	5	8	8	5	6.50
D. Average Time Required to Dust 40 Pieces of Classroom Furniture	2	1	1	0	1	.75
E. Conditions for the Prevention of Dust in Rooms	3	1	2	1	1	1.25
F. Tools and Appliances for Dusting	10	5	8	5	5	5.75
G. Tools and Appliances for Dusting Walls, Ceilings, etc.	4	2	2	1	0	1.25
H. Treatment of Dusters	2	0	0	0	0	0
I. Method of Procedure in Dusting	4	2	3	2	1	2
Total	80	30	39	27	20	29

Tables 21, 22, and 23 show the scores on dusting in the various schools. Classrooms should be dusted daily. This includes desks, tables, chairs, window sills, hand rails, tops of radiators, pianos, chalk troughs, etc. The average scores of the three types of schools show gross neglect in this particular. Likewise, the scores on the dusting of woodwork, which should be done weekly, is poor. Most of the schools seem to think that pictures never collect dust as they make no attempt to clean them. They think in a similar vein about dusting radiators. The average scores on the effectiveness of dusting ranges from 8.75 in the city schools to 6.50 in both types of rural schools. The average score of 29.42 on dusting for all the schools indicates that the janitors have no fear of dust.

Scrubbing and Mopping

Because of the deleterious effects of water and cleansing agents on wood floors, they should be scrubbed only as often as is necessary to keep them clean. The frequency for scrubbing will depend upon the treatment of the floors. If the floors are waxed, they should never be scrubbed. Such floors should be cleaned with a specially prepared cleanser, which will remove the dirt that adheres to the wax. If floors are treated with a high grade oil containing cleanser, it will not be

necessary to scrub them provided they are clean to begin with.¹

Since many schools have been using various and sundry floor oils, some of which contain vaseline, it will be necessary to clean their floors with a high grade of kerosene or thoroughly scrub them three times a year previous to oiling. Oil containing vaseline becomes black at places where floors receive little or no use, forming a viscous coating through which the freshly applied oil will not penetrate. It is necessary to remove the old oil before the new is applied if satisfactory results are to be expected.

Floors other than wood and even wood floors of kindergarten and home economics rooms should be mopped weekly. Daily mopping may be preferable to sweeping since it takes little more time than sweeping. Toilets should be mopped daily and thoroughly scrubbed once a week. Tables 24, 25, and 26 show how most of the schools have neglected scrubbing and mopping.

1. Reeves, C. E., "When and How Shall the School Floors Be Cleaned?", The Nation's Schools, Vol. VII, No. 6, (June, 1931).

Table 24
Scores of Four City High Schools on Scrubbing and
Mopping

Items Scored	Perfect Score	School A	School B	School C	School D	Average Score
A. Frequency of Scrubbing and Mopping	15	0	0	5	0	1.25
B. Time of Scrubbing and Mopping	3	0	0	1	0	.25
C. Conditions Affecting Scrubbing and Mopping						
1. Kind of floor	3	0	0	2	0	.50
2. Kind of furniture	2	0	0	1	0	.25
3. Condition of playground	2	0	0	2	0	.50
D. Equipment and Tools Used for Scrubbing and Mopping	15	0	0	9	0	2.25
E. Cleaning Tools and Treatment	5	0	0	2	0	.50
F. Method and Procedure in Scrubbing and Mopping	10	0	0	3	0	.75
G. Effectiveness of Results	15	0	0	5	0	1.25
Total	70	0	0	30	0	7.50

Table 25
Scores of Four Large Rural High Schools on Scrubbing
and Mopping

Items Scored	Perfect Score	School E	School F	School G	School H	Average Score
A. Frequency of Scrubbing and Mopping	15	3	0	0	0	.75
B. Time of Scrubbing and Mopping	3	3	0	0	0	.75
C. Conditions Affecting Scrubbing and Mopping						
1. Kind of floor	3	1	0	0	0	.25
2. Kind of furniture	2	1	0	0	0	.25
3. Condition of playground	2	2	0	0	0	.50
D. Equipment and Tools Used for Scrubbing and Mopping	15	5	0	0	0	1.25
E. Cleaning Tools and Treatment	5	3	0	0	0	.75
F. Method and Procedure in Scrubbing and Mopping	10	3	0	0	0	.75
G. Effectiveness of Results	15	5	0	0	0	1.25
Total	70	26	0	0	0	6.50

Table 26

Scores of Four Small Rural High Schools on Scrubbing
and Mopping

Items Scored	Perfect Score	School I	School J	School K	School L	Average Score
A. Frequency of Scrubbing and Mopping	15	0	5	8	0	3.25
B. Time of Scrubbing and Mopping	3	0	1	1	0	.50
C. Conditions Affecting Scrubbing and Mopping						
1. Kind of Floor	3	0	1	1	0	.50
2. Kind of furniture	2	0	1	1	0	.50
3. Condition of playground	2	0	2	1	0	.75
D. Equipment and Tools Used for Scrubbing and Mopping	15	0	5	7	0	3
E. Cleaning Tools and Treatment	5	0	2	0	0	.50
F. Method and Procedure in Scrubbing and Mopping	10	0	5	0	0	1.25
G. Effectiveness of Results	15	0	10	4	0	3.50
Total	70	0	32	23	0	13.75

Tables 24, 25, and 26 show that scrubbing and mopping are not practiced in the cleaning of classroom floors, corridors, and stairs in eight of the schools. This does not mean that they fail to use scrubbing and mopping in the cleaning of toilets. The cleaning of toilets will be considered later as a major item. Even the four schools doing scrubbing and mopping made a poor show. The schools making no attempt at this job were given no credit on conditions for scrubbing and mopping because no use was being made of the conditions, whether good or bad.

There were no tools worthy of mention for scrubbing. The task was usually done by worn out corn brooms or mops, neither of which will do the job adequately. Hand methods are unsatisfactory because there is not enough mechanical force to clean the wood floors without strong chemical agents, such as lye, oxalic acid, or other strong cleaning and bleaching powders that are injurious to the floors. Reeves has proved that the electric scrubbing machine is the only satisfactory tool for removing permanent dirt by mechanical means.¹ It is more rapid than any hand method, requires less effort and the results are better than those of any hand method.

Oiling of Floors

As already mentioned in the section just previous to this, floors should be clean before oiling. Ordinarily,

1. Reeves, op. cit., p. 25.

unless a high grade of floor oil with cleanser has been used, the floors should be thoroughly scrubbed before oiling. If floor oil is the preservative used, it should be applied three times a year, preferably at the three vacation periods. It may be necessary to oil more frequently the corridors and stairs on account of the heavy traffic on them.

School building floors should be treated with a dust preventive such as wax or oil. Wax holds dust by its magnetic qualities while oil holds it by its adhesive qualities.¹ All the schools in this study used oil more or less as a floor preservative and dust preventive.

It is wise to use a high grade floor oil containing paraffin because it will last longer than the cheaper grade containing vaseline.² The cheaper oil will also gum up and make sweeping more difficult and less effective. The average principal in the schools visited thought floor oil was just floor oil. He did not know the distinction between good and bad oil. Tables 27, 28, and 29 indicate that the schools as a whole ranked fair in the matter of oiling floors.

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1. Reeves, C. E. and Ganders, H. S., School Building Management, p. 139.
 2. Ibid., p. 140.

Table 27

Scores of Four City High Schools on Oiling of
Floors

Items Scored	Perfect Score	School A	School B	School C	School D	Average Score
A. Frequency of Oiling	3	2	2	3	2	2.25
B. Time of Oiling	2	2	2	2	2	2
C. Condition of Oiled Floors at Time of Observation	10	7	5	8	5	6.25
D. Conditions Affecting Oiling	2	2	1	2	2	1.75
E. Tools and Appliances Used for Oiling	5	3	2	3	2	2.50
F. Method of Procedure in Oiling	5	4	4	3	2	3.25
G. Amount of Oil per Classroom of 700 sq. ft. in Area	3	3	3	3	1	2.50
Total	30	22	19	24	16	20.25

Table 28
Scores of Four Large Rural High Schools on Oiling
of Floors

Items Scored	Perfect Score	School E	School F	School G	School H	Average Score
A. Frequency of Oiling	3	2	2	2	3	2.25
B. Time of Oiling	2	1	2	1	2	1.50
C. Condition of Oiled Floors at Time of Observation	10	4	3	4	8	4.75
D. Conditions Affecting Oiling	2	1	1	1	1	1
E. Tools and Appliances Used for Oiling	5	2	1	2	2	1.75
F. Method of Procedure in Oiling	5	2	2	2	2	2
G. Amount of Oil per Classroom of 700 sq. ft. in Area	3	3	2	2	3	2.50
Total	30	15	13	14	21	15.75

9725



Table 29
Scores of Four Small Rural High Schools on Oiling
of Floors

Items Scored	Perfect Score	School I	School J	School K	School L	Average Score
A. Frequency of Oiling	3	3	3	2	3	2.75
B. Time of Oiling	2	2	2	1	1	2
C. Condition of Oiled Floors at Time of Observation	10	4	8	5	7	6
D. Conditions Affecting Oiling	2	1	1	1	1	1
E. Tools and Appliances Used for Oiling	5	2	3	2	2	2.25
F. Method of Procedure in Oiling	5	2	2	1	2	1.75
G. Amount of Oil per Classroom of 700 sq. ft. in Area	3	3	2	2	3	2.50
Total	30	17	21	14	19	17.75

In seven of the schools according to Tables 27, 28, and 29 floors were oiled twice instead of three times as suggested by the standard. Some of the schools oiled at any time rather than at the three vacation periods. Schools C, H, and J rated good in conditions of floors at the time of observation, while schools E, F, G, and I made poor showing. It is interesting to note that seven schools made a perfect score on the amount of floor oil used per room. This means a good saving of the taxpayer's money. Frequently oil has been wasted in treating floors in an inefficient manner. Some janitors in these schools slopped the oil on the floors out of a tub without a ringer attached. This method means over oiling in places and a waste of oil. The spray is the most economical and effective tool to use in oiling floors. The spray is also a great time saver, being about twice as rapid as the mop and sprinkler and four times as rapid as a mop and pail.¹

Cleaning and Polishing of Woodwork and Furniture

Woodwork and furniture should be cleaned and treated with a preservative three times a year at the vacation periods. If daily and weekly dusting is done, a goodly portion of cleaning will be made easier and polishing will stand up longer. The woodwork to be cleaned includes

1. Reeves, C. E. and Ganders, H. S., School Building Management, p. 145.

partitions, stair railings, baseboards, wainscoting, moldings, doors, door frames, window-frames, window-sashes, shelves, and the like. Various fixtures, such as electric fixtures, globes and light bulbs, ventilating grille work, shelf brackets, window shades, and the like should receive attention of the cleaner and polisher at least threetimes per year. The furniture to be cleaned and polished includes desks, seats, chairs, tables, bookcases, pianos, pictures, map cases, and the like.

In cleaning woodwork a soft flannel cloth or cheese-cloth should be used with clear, lukewarm water, or a polish that contains a cleanser.. It is unwise to use soap in the water because it damages the finish of the wood. Sometimes water causes spots to appear on woodwork or furniture. These spots may be removed by the use of alcohol or kerosene. Polishing helps to preserve varnished or painted surface and improves its appearance.

In some of the schools studied, it was found that teachers and pupils did what cleaning and polishing was done. Some janitors thought that floor oil was a good furniture polish, but it should not be used because it will not produce the degree of sheen and luster that is desirable. Tables 30, 31, and 32 present the standing of the schools relative to cleaning and polishing.

Table 30

Scores of Four City High Schools on Cleaning and
Polishing of Woodwork and Furniture

Items Scored	Perfect Score	School A	School B	School C	School D	Average Score
A. Frequency of Cleaning and Polishing Woodwork and Furniture	3	1	0	1	0	.50
B. Time of Cleaning and Polishing	2	1	0	1	0	.50
C. Condition of Woodwork and Furniture at Time of Observation	10	6	0	6	0	3
D. Conditions Affecting Cleaning and Polishing	2	2	0	1	0	.75
E. Materials Used	3	2	0	1	0	.75
F. Tools and Appliances in Cleaning and Polishing	5	3	0	4	0	1.75
G. Methods of Procedure in Cleaning and Polishing	5	3	0	4	0	1.75
Total	30	18	0	18	0	9

Table 31

Scores of Four Large Rural High Schools on Cleaning
and Polishing of Woodwork and Furniture

Items Scored	Perfect Score	School E	School F	School G	School H	Average Score
A. Frequency of Cleaning and Polishing Woodwork and Furniture	3	0	0	1	3	1
B. Time of Cleaning and Polishing	2	0	0	1	0	.25
C. Condition of Woodwork and Furniture at Time of Observation	10	0	0	7	8	3.75
D. Conditions Affecting Cleaning and Polishing	2	0	0	1	2	.75
E. Materials Used	3	0	0	1	1	.50
F. Tools and Appliances in Cleaning and Polishing	5	0	0	2	5	1.75
G. Methods of Procedure in Cleaning and Polishing	5	0	0	2	3	1.25
Total	30	0	0	15	22	9.25

Table 32

Scores of Four Small Rural High Schools on Cleaning
and Polishing of Woodwork and Furniture

Items Scored	Perfect Score	School I	School J	School K	School L	Average Score
A. Frequency of Cleaning and Polishing Woodwork and Furniture	3	0	1	1	1	.75
B. Time of Cleaning and Polishing	2	0	1	1	1	.75
C. Condition of Woodwork and Furniture at Time of Observation	10	0	5	3	4	3
D. Conditions Affecting Cleaning and Polishing	2	0	1	1	1	.75
E. Materials Used	3	0	2	1	2	.75
F. Tools and Appliances in Cleaning and Polishing	5	0	2	1	2	1.25
G. Methods of Procedure in Cleaning and Polishing	5	0	2	1	2	1.25
Total	30	0	14	9	13	9

The fact is brought out in Tables 30, 31, and 32 that five schools fail to indulge in cleaning and polishing. Two of these were city schools, two of the large rural schools, and one of the small rural schools. Schools A, C, G, and H are taking care of the job fairly well, while J, K, and L make a poor showing. Of course, the schools failing to make any attempt at the job at all rated nothing or zero.

Washing Glass

A school building with clean windows makes a good impression. Sometimes buildings which are otherwise clean may be classed as dirty because students can write their names in the dust on the windows. Nothing so brightens up a classroom as clean windows. Reeves and Ganders report that very dirty windows may exclude as much as one-third of the light that should enter through windows.¹ The amount of eyestrain of the children is dependent upon the condition of the windows, other things being equal.

In order to keep windows clean it is necessary to wash them on the outside at least three times a year and on the inside once a month. In some localities it may be necessary to wash the windows on the outside more frequently. Inside glass, such as the glass of doors,

1. Reeves, C. E. and Ganders, H. S., School Building Management, p. 186.

cupboards, and cases, mirrors, and the like should be washed weekly. Tables 33, 34, and 35 give the scores of the schools on washing glass.

Table 33

Scores of Four City High Schools on Washing Glass

Items Scored	Perfect Score	School A	School B	School C	School D	Average Score
A. Frequency of Washing Windows	12	8	6	8	10	8
B. Frequency of Washing Inside Glass Other than Windows	10	8	1	8	5	5
C. Time of Washing Glass	2	1	1	1	1	1
D. Condition of Windows at Time of Observation	15	9	8	12	10	9.75
E. Time to Clean 2000 sq. in. of Window Glass Area (Outside)	2	2	1	1	0	1
F. Conditions Affecting the Cleaning of Glass	2	2	1	2	2	1.75
G. Tools and Appliances Used in Cleaning Glass	10	2	3	4	0	2.25
H. Cleaning Agents and Treatment	4	2	1	2	1	1.50
I. Method of Procedure in Cleaning Glass	3	2	1	1	1	1.25
Total	60	36	23	37	30	31.50

Table 34

Scores of Four Large Rural High Schools on Washing
Glass

Items Scored	Perfect Score	School E	School F	School G	School H	Average Score
A. Frequency of Washing Windows	12	8	2	7	4	5.25
B. Frequency of Washing Inside Glass Other Than Windows	10	3	0	4	3	2.50
C. Time of Washing Glass	2	0	1	1	1	.75
D. Condition of Windows at Time of Observation	15	7	5	6	8	6.50
E. Time to Clean 2000 sq. in. of Window Glass Area (Outside)	2	0	0	1	0	.75
F. Conditions Affecting the Cleaning of Glass	2	2	2	1	2	1.75
G. Tools and Appliances Used in Cleaning Glass	10	4	0	2	0	1.50
H. Cleaning Agents and Treatment	4	2	1	0	2	1.25
I. Method of Procedure in Cleaning Glass	3	1	1	1	1	1
Total	60	27	12	23	21	19

Table 35

Scores of Four Small Rural High Schools on Washing Glass

Items Scored	Perfect Score	School I	School J	School K	School L	Average Score
A. Frequency of Washing Windows	12	6	4	8	4	5.50
B. Frequency of Washing Inside Glass Other Than Windows	10	3	1	4	3	2.75
C. Time of Washing Glass	2	1	1	1	1	1
D. Condition of Windows at Time of Observations	15	5	5	8	5	5.75
E. Time to Clean 2000 sq. in. of Window Glass Area (Outside)	2	0	0	1	0	
F. Conditions Affecting the Cleaning of Glass	2	2	2	1	2	1.75
G. Tools and Appliances Used in Cleaning Glass	10	0	0	1	0	.25
H. Cleaning Agents and Treatment	4	2	1	2	2	1.75
I. Method of Procedure in Cleaning Glass	3	1	1	1	1	1
Total	60	20	15	27	18	20

Tables 33, 34, and 35 show that the schools as a whole attend to the washing of windows about one-half as frequently as they should. Inside glass gets about one-third of the cleaning due it. The condition of windows scored from 9.75 in the city to 6.50 and 5.75 in the large rural and small rural schools respectively. All the schools were woefully lacking in tools and appliances for cleaning of glass. About the only cleaning agent used was Bon Ami, which is unsatisfactory because of the white residue left on the window sash and because it streaks during the first rain. Clear water is the best cleaning agent to be used. It is best applied by a chamois and dried by another chamois. The Bon Ami method is too slow to be practical for the janitor. He could not get around often enough. Seventy-five per cent of the cleaning of glass in the schools studied was done by pupil and teachers. This is unsatisfactory because a room usually loses a day when the pupils and teachers undertake to wash the windows.

Blackboard Cleaning

Cleaning blackboards and trays adds to the appearance of the rooms. In some schools they are seldom cleaned. Dirty blackboards and trays running over with chalk dust are a reflection on the school. "This rasping dust is very irritating to the mucous membranes of the air passages

and may ... become dangerous to the health of the children and teachers."¹

Blackboards should be cleaned by the janitors. It is a distinct waste of the teacher's time to do this cleaning. Many janitors have been spoiled by teachers and pupils taking over this job and have begun to feel that blackboard cleaning is not part of their work. These janitors should be shocked by the principal's giving them the task of washing the blackboards weekly and seeing that they do it. Tables 36, 37, and 38 show the scores allotted to the various schools on blackboard cleaning.

1. Dresslar, F. B., School Hygiene, p. 354.

Table 36
Scores of Four City High Schools on Blackboard
Cleaning

Items Scored	Perfect Score	School A	School B	School C	School D	Average Score
A. Frequency of Cleaning Blackboards	5	2	1	3	2	2
B. Time of Cleaning Blackboards	2	2	1	2	1	1.50
C. Condition of Blackboards at Time of Observation	10	7	6	8	8	7.25
D. Time Required to Clean 100 sq. ft. of Blackboard Area	4	3	2	3	2	2.50
E. Conditions to Facilitate Blackboard Cleaning	2	2	1	1	2	1.50
F. Appliances, Agents, General Method Used in Cleaning Blackboard	5	3	2	3	2	2.50
G. Method of Procedure in Cleaning Blackboard	2	1	1	2	1	1.25
Total	30	20	14	22	18	18.50

Table 37

Scores of Four Large Rural High Schools on Blackboard Cleaning

Items Scored	Perfect Score	School E	School F	School G	School H	Average Score
A. Frequency of Cleaning Blackboards	5	1	2	1	2	1.50
B. Time of Cleaning Blackboards	2	0	1	0	2	.75
C. Condition of Blackboards at Time of Observation	10	4	4	5	8	5.25
D. Time Required to Clean 100 sq. ft. of Blackboard Area	4	1	1	1	3	1.50
E. Conditions to Facilitate Blackboard Cleaning	2	1	1	1	1	1
F. Appliances, Agents, General Method Used in Cleaning Blackboard	5	1	2	2	3	2
G. Method of Procedure in Cleaning Blackboard	2	1	1	1	1	1
Total	30	9	12	11	20	13

Table 38

Scores of Four Small Rural High Schools on Black-
board Cleaning

Items Scored	Perfect Score	School I	School J	School K	School L	Average Score
A. Frequency of Cleaning Blackboards	5	2	3	4	1	2.50
B. Time of Cleaning Blackboards	2	1	2	1	0	1
C. Condition of Blackboards at Time of Observation	10	4	5	7	4	5
D. Time Required to Clean 100 sq. ft. of Blackboard Area	4	2	2	3	2	2.25
E. Conditions to Facilitate Blackboard Cleaning	2	1	1	1	1	1
F. Appliances, Agents, General Method Used in Cleaning Blackboard	5	2	2	2	2	2
G. Method of Procedure in Cleaning Blackboard	2	1	1	1	1	1
Total	30	13	16	19	11	14.75

As indicated in Tables 36, 37, and 38, schools B, E, G, and L are very neglectful in the frequency with which they clean their boards. The other schools, however, only brought the average up to 2 points. It is remarkable that the blackboards were in as good condition as they were since there was no regular time for cleaning them.

Almost all the schools were using slow, ineffective methods of cleaning their boards. The best application for cleaning smooth blackboards according to Reeves and Ganders is a towel wrung out of clear water and wrapped around a stick $3/4$ inch x $3/4$ inch x 2 ft.¹ This implement may be used by holding it against the board and walking back and forth the length of the board, beginning at the top and working downward. In case the blackboard has depressions in it, a heavy bath towel wet with clear water and held against the board with both hands, using the back and forth method, is the best tool. By either appliance 100 sq. ft. of blackboard can be cleaned in 4 to 8 minutes, whereas students have been known to take a whole period of 45 minutes or more to clean a blackboard during school hours. Cleaning during school hours is objectionable.

Eraser Cleaning

Erasers should be kept clean for hygienic reasons

1. Reeves, C. M. and Ganders, H. S., School Building Management, pp. 209.15.

and to make blackboard use effective. An eraser filled with chalk keeps the blackboard smeared with chalk dust thereby causing the boards to need washing more frequently. It is wise to clean erasers twice a week. Several of the schools visited did not perform this task with a frequency that is satisfactory as may be seen in Tables 39, 40, and 41.

Table 39

Scores of Four City High Schools on Eraser Cleaning

Items Scored	Perfect Score	School A	School B	School C	School D	Average Score
A. Frequency of Cleaning Erasers	5	2	2	2	2	2
B. Time of Cleaning Erasers	2	0	1	1	0	.50
C. Cleanliness of Erasers After Cleaning or at Observation	3	1	1	2	1	1.25
D. Method of Cleaning Erasers	5	1	1	3	2	1.75
Total	15	4	5	8	5	5.50

Table 40

Scores of Four Large Rural High Schools on Eraser Cleaning

Items Scored	Perfect Score	School E	School F	School G	School H	Average Score
A. Frequency of Cleaning Erasers	5	1	2	1	3	1.75
B. Time of Cleaning Erasers	2	1	1	1	1	1
C. Cleanliness of Erasers After Cleaning or at Observation	3	1	1	1	2	1.25
D. Method of Cleaning Erasers	5	2	2	1	2	1.75
Total	15	5	6	4	8	5.75

Table 41

Scores of Four Small Rural High Schools on Eraser Cleaning

Items Scored	Perfect Score	School I	School J	School K	School L	Average Score
A. Frequency of Cleaning Erasers	5	1	2	2	1	1.50
B. Time of Cleaning Erasers	2	1	2	1	1	1.25
C. Cleanliness of Erasers After Cleaning or at Observation	3	1	1	1	1	1
D. Method of Cleaning Erasers	5	2	2	2	2	2
Total	15	5	7	6	5	5.75

Tables 39, 40, and 41 indicate that eraser cleaning was ineffective. It could not be otherwise since there were no vacuum cleaners in the schools to do the cleaning. No hand method can take the place of the vacuum cleaner. Since none of these schools had a central vacuum cleaner, the next best thing to do is to get a portable vacuum cleaner. The average scores of 5.50 to 5.75 out of a possible 15 show that the schools are doing a poor job of eraser cleaning.

Chapter V

Janitorial Service of Somewhat General Nature

Toilet Cleaning

Although toilet cleaning is as important as any of the major items of janitorial service, it is often neglected by janitors. Possibly no other job has more to do with one's opinion of the janitorial service of a school than has the care of toilets. Clean toilets have a wholesome moral effect on the students. The desire to cut, mark, or deface toilet walls and fixtures is considerably restrained by an absolute cleanliness of toilet conditions. The presence of a janitor in the toilet a few minutes before and after school and at the recess periods insures the flushing of toilet bowls after use, prevents the waste of toilet supplies, and discourages smoking, indecent language, and general loitering in toilet rooms.

Reeves and Ganders visited 28 schools and found that the cleaning of toilet room floors ranged from four times a day to yearly.¹ The range in the twelve schools of this study was from two times a day to monthly according to the information from the principals and janitors.

1. Reeves, C. E. and Ganders, H. S., School Building Management, p. 173.

But according to the conditions found in some schools, there is doubt whether the floors of these schools were cleaned monthly. Toilets should be cleaned at least once a day. It may be necessary to clean them from two to four times a day. They should be given a thorough cleaning once a week. Tables 42, 43, and 44 give the scores of the twelve high schools on toilet cleaning.

Table 42

Scores of Four City High Schools on Toilet Cleaning

Items Scored	Perfect Score	School A	School B	School C	School D	Average Score
A. Frequency of Cleaning Toilet Rooms Floors	10	2	8	8	4	5.50
B. Frequency of Cleaning Toilet Room Bowls, Seats, Urinals	10	2	2	6	5	3.75
C. Time of Cleaning Toilet Room Floors, Bowls, Urinals	5	3	3	3	2	2.75
D. Condition of Toilets as to Cleanliness and Odor at Time of Observation	30	25	15	23	15	19.50
E. Conditions Affecting the Cleaning of Toilet Rooms	5	5	2	3	4	3.50
F. Tools, Appliances, Agents Used for Cleaning of Toilet Room Floors	5	3	2	2	3	2.50
G. Tools, Appliances, Agents Used for Cleaning Toilet Bowls, Seats, Urinals	5	3	2	2	2	2.25
H. Procedure in Cleaning Toilet Room Floors	5	3	3	2	2	2.50
I. Procedure in Cleaning Toilet Room Bowls, Seats and Urinals	5	2	3	3	2	2.50
Total	80	43	40	52	39	43.50

Table 43
Scores of Four Large Rural High Schools on Toilet
Cleaning

Items Scored	Perfect Score	School E	School F	School G	School H	Average Score
A. Frequency of Cleaning Toilet Rooms Floors	10	8	2	2	3	3.75
B. Frequency of Cleaning Toilet Room Bowls, Seats, Urinals	10	5	2	2	4	3.25
C. Time of Cleaning Toilet Room Floors, Bowls, Urinals	5	3	3	1	3	2.50
D. Condition of Toilets as to Cleanliness and Odor at Time of Observation	30	15	10	2	15	10.50
E. Conditions Affecting the Cleaning of Toilet Rooms	5	2	1	1	2	1.50
F. Tools, Appliances, Agents Used for Cleaning of Toilet Room Floors	5	2	1	0	2	1.25
G. Tools, Appliances, Agents Used for Cleaning Toilet Bowls, Seats, Urinals	5	2	0	0	2	1
H. Procedure in Cleaning Toilet Room Floors	5	2	2	1	2	1.75
I. Procedure in Cleaning Toilet Room Bowls, Seats and Urinals	5	3	1	1	2	1.75
Total	80	42	22	10	35	27.25

Table 44
Scores of Four Small Rural High Schools on Toilet
Cleaning

Items Scored	Perfect Score	School I	School J	School K	School L	Average Score
A. Frequency of Cleaning Toilet Rooms Floors	10	2	6	5	3	4
B. Frequency of Cleaning Toilet Room Bowls, Seats, Urinals	10	2	5	2	3	3
C. Time of Cleaning Toilet Room Floors, Bowls, Urinals	5	2	4	0	2	2
D. Condition of Toilets as to Cleanliness and Odor at Time of Observation	30	5	20	12	7	11
E. Conditions Affecting the Cleaning of Toilet Rooms	5	1	2	1	2	1.50
F. Tools, Appliances, Agents Used for Cleaning of Toilet Room Floors	5	1	3	1	1	1.50
G. Tools, Appliances, Agents Used for Cleaning Toilet Bowls, Seats, Urinals	5	0	3	0	0	.75
H. Procedure in Cleaning Toilet Room Floors	5	1	4	1	1	1.75
I. Procedure in Cleaning Toilet Room Bowls, Seats and Urinals	5	0	3	0	1	1
Total	80	14	50	22	20	26.50

Tables 42, 43, and 44 show that only five schools, A, B, C, E, and J made a fair score on toilet cleaning. Schools G and I almost wholly neglect this job. The other five schools make a poor showing. The low scores on cleaning toilet bowls, seats, and urinals indicate that the schools have not interested themselves sufficiently in the sanitary and hygienic value of keeping these fixtures clean. Toilet bowls, seats, and urinals should be cleaned at least once per day. This should be increased to from two to four times per day where conditions of ventilation, sunlight, size of toilet room and amount of use are unfavorable. Some disinfectant, such as carbolic acid, lysol, or chlorine tablets, should be added to the cleansing solution used to clean the bowls, urinals, and seats. The average scores of the rural schools on toilet cleaning are very low. These schools should undertake to improve their status on this very important janitorial service.

Other Cleaning

Under this heading miscellaneous jobs having to do with the care of the building will be considered. Cleaning of boilers and furnances, and the care of yards, etc. will be discussed under the headings, "Heating and Ventilating" and "Special Work" of the janitor. These miscellaneous cleanings are necessary to make the janitorial

service of a school a complete job. It gives what might be called the finishing touches.

Chalk trays should be cleaned daily. A vacuum cleaner is the best tool to get the dust out with. In the absence of the vacuum cleaner a dry cloth may be used to wipe off the trays. At the end of each week and after the chalk dust has been wiped off with a dry cloth, the trays should be given a thorough cleaning by washing with cloth or sponge. After washing, the trays should be wiped with a cloth treated with kerosene to remove all chalky smears and streaks.

So far as the public is concerned there is no work, with the exception of the cleaning of toilets and the cleaning of glass, that will pay bigger dividends in appreciation for janitorial service than the polishing of metal fixtures. There is something about nicely polished brass that attracts attention. The cleaning of metal fixtures should be done at odd times during school hours in most cases. The janitor's schedule should be such that he can get around all the polishing every two or three weeks.

Drinking fountains, sinks and lavatories should be cleaned daily. Some other important items in miscellaneous cleanings are the cleaning of janitor's tools, removal of sawdust and shavings from manual training rooms, removal of garbage from domestic science rooms, and methods of

disposing of waste paper, sweepings, etc. Tables 45, 46, and 47 give the scores of the schools on "Other Cleaning."

Table 45
Scores of Four City High Schools on Other Cleaning

Items Scored	Perfect Score	School A	School B	School C	School D	Average Score
A. Condition of						
1. Chalk trays	2	2	1	1	1	1.25
2. Cork Board	2	1	1	0	1	.75
3. Metal fixtures	2	1	0	1	1	.75
4. Drinking fountains, etc.	5	3	2	3	3	2.75
5. Inkwells	3	0	0	0	0	0
6. Basement rooms, carpets, etc.	2	0	1	1	0	.50
B. Cleanliness of						
1. Carpets, rugs and curtains	2	0	1	1	0	.50
2. Door mats and foot scrapers	2	0	1	0	1	.50
3. Gymnasium mats	2	0	0	1	0	.25
4. Umbrella trays	2	0	0	0	0	0
5. Janitors' tools	5	2	2	2	2	2
6. Inside glaze brick	2	0	0	0	1	.25
7. Waste paper baskets	2	1	1	1	1	1
C. Ink Stains, Chalk, and Pencil Marks	5	3	2	2	2	2.25
D. Removal of Sawdust and Shavings from Manual Training Rooms	5	0	4	0	1	1.25
E. Removal of Garbage from Domestic Science Rooms	5	5	4	5	5	4.75
F. Methods of Disposing Waste Paper, etc.	5	2	3	2	2	2.25
G. Cleaning and Dis- infecting Hand Rails, etc.	2	1	0	0	0	.25
Total	55	21	23	20	22	21.50

Table 46

Scores of Four Large Rural High Schools on Other Cleaning

Items Scored	Perfect Score	School E	School F	School G	School H	Average Score
A. Condition of						
1. Chalk trays	2	1	1	2	2	1.50
2. Cork board	2	1	0	0	2	.75
3. Metal fixtures	2	1	0	1	1	.75
4. Drinking fountains, etc.	5	3	1	3	3	2.50
5. Inkwells	3	0	0	0	3	.75
6. Basement rooms, carpets, etc.	2	0	0	1	0	.25
B. Cleanliness of						
1. Carpets, rugs and curtains	2	0	0	1	0	.25
2. Door mats and foot scrapers	2	0	0	0	0	0
3. Gymnasium mats	2	0	0	0	0	0
4. Umbrella trays	2	0	0	0	0	0
5. Janitors' tools	5	2	1	2	2	1.75
6. Inside glaze brick	2	0	0	0	0	0
7. Waste paper baskets	2	1	1	1	0	.75
C. Ink Stains, Chalk, and Pencil Marks						
	5	0	2	1	5	2
D. Removal of Sawdust and Shavings from Manual Training Rooms						
	5	5	2	1	0	2
E. Removal of Garbage from Domestic Science Rooms						
	5	5	3	3	5	4
F. Methods of Disposing Waste Paper, etc.						
	5	1	3	2	3	2.25
G. Cleaning and Disinfecting Hand Rails, etc.						
	2	0	0	0	0	0
Total	55	20	15	17	26	19.50

Table 47

Scores of Four Small Rural High Schools on Other Cleaning

Items Scored	Perfect Score	School I	School J	School K	School L	Average Score
A. Condition of						
1. Chalk trays	2	1	1	1	1	1
2. Cork board	2	0	1	0	0	.25
3. Metal fixtures	2	1	1	1	1	1
4. Drinking fountains, etc.	5	2	3	2	0	1.75
5. Inkwells	3	0	0	0	0	0
6. Basement rooms, carpets, etc.	2	1	0	1	0	.50
B. Cleanliness of						
1. Carpets, rugs and curtains	2	1	0	1	0	.50
2. Door mats and foot scrapers	2	0	0	0	1	.25
3. Gymnasium mats	2	0	0	0	0	0
4. Umbrella trays	2	0	0	0	0	0
5. Janitors' tools	5	1	2	1	1	1.25
6. Inside glaze brick	2	0	0	0	0	0
7. Waste paper baskets	2	0	1	1	0	.50
C. Ink Stains, Chalk, and Pencil Marks	5	2	2	2	3	2.25
D. Removal of Sawdust and Shavings from Manual Training Rooms	5	5	1	2	2	2.25
E. Removal of Garbage from Domestic Science Rooms	5	5	5	5	5	5
F. Methods of Disposing Waste Paper, etc.	5	3	2	3	3	2.75
G. Cleaning and Disinfecting Hand Rails, etc.	2	0	0	0	0	0
Total	55	21	20	19	17	19.25

According to Tables 45, 46, and 47, school H is the only one making a fair score. All the others rate as poor. Low scores on some items is due to the absence of certain fixtures. Such is the case relative to cork boards, umbrella trays, inkwells, carpets, rugs and curtains, door-mats and footscrapes, gymnasium mats and inside glaze bricks. It will be noted that only one school made any effort to disinfect hand rails and door knobs. Janitors should frequently clean and disinfect the objects just mentioned for hygienic and sanitary reasons.

Heating and Ventilating

Possibly the janitor affects the health of children more directly by his use or misuse of the heating and ventilating equipment than by any other phase of his janitorial services. His management of this equipment will determine largely the number of cases of respiratory diseases, and this will affect the average daily attendance. Improper heating and ventilating decreases the efficiency of learning conditions. Pupils and teachers cannot do their best work in either an overheated or underheated room. Neither can they do their best work in a poorly ventilated room.

A janitor that understand firing can save coal and at the same time can maintain an even temperature throughout the building. A convenient method of bringing coal from the bin should be provided by the board of education.

The janitor should remove ashes daily or more frequently if necessary to keep ashes from banking up to the grates and burning them out. He should maintain temperatures from 60 to 70 degrees throughout the building. Boiler flues should be cleaned daily. Cleanliness is as necessary in the boiler, engine and fan rooms as in classrooms. These rooms must be kept free from dirt, dust, and rubbish and mopped frequently. Tables 48, 49, and 50 show the scores of the schools on heating and ventilating.

Table 48

Scores of Four City High Schools on Heating and Ventilating

Items Scored	Perfect Score	School A	School B	School C	School D	Average Score
A. Method of Firing Furnace						
1. Frequency of firing	10	5	7	6	8	6.50
2. Amount of coal fed to furnace at each firing	20	15	10	15	18	14.50
3. Condition of fuel bed	10	8	8	8	5	7.25
B. Method of Bringing Coal From Bin to Furnace	10	3	3	6	5	4.25
C. Removal and Disposal of Ashes	5	1	2	2	2	1.75
D. Temperature Control Thermostats	15	5	5	5	5	5
E. Fluctuation in Degrees of Temperature	25	20	15	22	20	19.25
F. Frequency of Cleaning Boiler Flues	15	5	3	8	5	5.25
G. Cleaning Inside of Hot Water Tanks, etc.	5	0	0	0	0	0
H. Miscellaneous Firing Jobs	5	1	0	2	1	1
I. Care of Ventilating Apparatus	5	0	0	0	2	.50
J. Time at Which Ventilating Apparatus is in Operation	5	0	0	0	3	.75
K. Cleanliness of Boiler, Engine and Fan Rooms	20	6	5	8	5	6
Total	150	69	58	82	79	72

Table 49

Scores of Four Large Rural High Schools on Heating
and Ventilating

Items Scored	Perfect Score	School E	School F	School G	School H	Average Score
A. Method of Firing Furnace						
1. Frequency of firing	10	5	2	4	10	5.25
2. Amount of coal fed to furnace at each firing	20	15	8	8	15	11.50
3. Condition of fuel bed	10	5	2	2	9	4.50
B. Method of Bringing Coal From Bin to Furnace	10	3	3	3	5	3.50
C. Removal and Disposal of Ashes	5	1	1	1	2	1.25
D. Temperature Control Thermostats	15	2	3	5	5	3.75
E. Fluctuation in Degrees of Tempera- ture	25	10	5	15	20	12.50
F. Frequency of Clean- ing Boiler Flues	15	5	3	6	10	6
G. Cleaning Inside of Hot Water Tanks, etc.	5	0	0	0	0	0
H. Miscellaneous Firing Jobs	5	1	0	2	2	1.25
I. Care of Ventilating Apparatus	5	0	0	0	0	0
J. Time at Which Ventilating Apparatus is in Operation	5	0	0	0	0	0
K. Cleanliness of Boiler, Engine and Fan Rooms	20	4	0	10	10	6
Total	150	51	27	56	88	55.50

Table 50
 Scores of Four Small Rural High Schools on Heating
 and Ventilating

Items Scored	Perfect Score	School I	School J	School K	School L	Average Score
A. Method of Firing Furnace						
1. Frequency of firing	10	0	8	0	0	2
2. Amount of coal fed to furnace at each firing	20	0	18	0	0	4.50
3. Condition of fuel bed	10	0	8	0	0	2
B. Method of Bringing Coal From Bin to Furnace	10	0	5	0	0	1.25
C. Removal and Disposal of Ashes	5	0	3	0	0	.75
D. Temperature Control Thermostats	15	0	5	0	0	1.25
E. Fluctuation in Degrees of Temperature	25	0	15	0	0	3.75
F. Frequency of Cleaning Boiler Flues	15	0	12	0	0	3
G. Cleaning Inside of Hot Water Tanks, etc.	5	0	0	0	0	0
H. Miscellaneous Firing Jobs	5	0	3	0	0	.75
I. Care of Ventilating Apparatus	5	0	0	0	0	0
J. Time at Which Ventilating Apparatus is in Operation	5	0	0	0	0	0
K. Cleanliness of Boiler, Engine and Fan Rooms	20	0	12	0	0	3
Total	150	0	89	0	0	22.25

It will be noted in Tables 48, 49 and 50 that schools I, K, and L failed to obtain a score. This is due to their using stoves. The score card used in this study was not adapted to schools of this type. Schools C, D, H, and J made fair scores on heating and ventilating, while schools B and E made a poor showing. School F scored 27, which is an unsatisfactory standing on heating and ventilating. All the schools scored zero on cleaning inside of hot water tanks, catch basins, receiving tanks, etc. These should be cleaned yearly, but no school had done this cleaning since establishment. There was nothing in the way of a ventilating system (window system excepted) except in school D. Consequently, the other schools failed to obtain a score other than zero. Janitors have not realized the importance of cleaning boiler flues as the low scores will attest. This means a great waste of coal because the soot and scale form an insulator between the fire and water. The low scores made by several of the schools on boiler room conditions indicate that the janitors of these schools think any old condition is all right for the boiler room.

Special Work

Some of the jobs included under this heading to be performed by the janitor are minor repairs, unskilled

painting, clerical duties, care of grounds, custodial duties, care of clocks and bells, fire precautions, and other miscellaneous jobs. Unless repairs and replacements are made when needed, rapid deterioration in school buildings and equipment may result. It is the janitor's duty to make minor repairs as the occasion may demand, but major repairs had best be done by skilled tradesmen. Janitors may be expected to do rough jobs of painting, such as painting steps, fences, boilers and boiler rooms, and the like; but the more decorative type of painting should be done by professionals unless the janitor happens to be a skilled artist at the job himself.

Some of his clerical duties are such as measuring, checking and signing receipts for janitorial supplies; keeping records of the janitor's supply room and its supplies; reporting of fuel on hand; and the like. Care of grounds includes keeping rubbish off the yard, watering flowers, mowing the lawn, etc. As custodian, he has general control over the school property, keeper of the keys for the buildings, locks buildings, prevents abuse of school property, etc. The janitor should wind, set, and keep regulated all clocks weekly. He should exercise fire precautions, and do a number of miscellaneous jobs not already mentioned, such as put up the flag, replenish toilet supplies, adjust seats to fit pupils, run errands,

and the like. Tables 51,52, and 53 show to what extent janitors are doing special work.

Table 51

Scores of Four City High Schools on Special Work
of the Janitor

Items Scored	Perfect Score	School A	School B	School C	School D	Average Score
A. Repairs Performed By Janitors	30	15	10	21	15	15.25
B. Decorating Work Performed By Janitors	5	1	0	0	0	.25
C. Clerical Duties Performed by Janitors	5	0	0	0	0	0
D. Care of Grounds by Janitors	20	18	15	12	15	15
E. Custodial Duties of Janitors	5	2	0	1	2	1.25
F. Care of Clocks and Bells other than Repairs by Janitors	5	1	2	4	0	1.75
G. Fire Precautions by Janitors	5	3	0	1	3	1.75
H. Miscellaneous Jobs Performed by Janitors	10	8	3	6	8	6.25
Total	85	48	30	45	43	41.50

Table 52

Scores of Four Large Rural High Schools on Special
Work of the Janitor

Items Scored	Perfect Score	School E	School F	School G	School H	Average Score
A. Repairs Performed by Janitors	30	10	5	3	0	4.50
B. Decorating Work Performed by Janitors	5	3	0	0	0	.75
C. Clerical Duties Performed by Janitors	5	0	0	0	0	0
D. Care of Grounds by Janitors	20	15	5	4	10	8.50
E. Custodial Duties of Janitors	5	1	2	0	0	.75
F. Care of Clocks and Bells other than Repairs by Janitors	5	5	0	0	0	1.25
G. Fire Precautions by Janitors	5	3	1	3	2	2.25
H. Miscellaneous Jobs Performed by Janitors	10	6	3	1	3	3.25
Total	85	43	16	11	15	21.50

Table 53

Scores of Four Small Rural High Schools on Special
Work of the Janitor

Items Scored	Perfect Score	School I	School J	School K	School L	Average Score
A. Repairs Performed by Janitors	30	0	5	0	0	1.25
B. Decorating Work Performed by Janitors	5	0	0	0	0	0
C. Clerical Duties Performed by Janitors	5	0	0	0	0	0
D. Care of Grounds by Janitors	20	10	18	0	15	10.75
E. Custodial Duties of Janitors	5	0	1	0	0	.25
F. Care of Clocks and Bells other than Repairs by Janitors	5	3	0	0	0	.75
G. Fire Precautions by Janitors	5	1	4	0	2	1.75
H. Miscellaneous Jobs Performed by Janitors	10	3	6	0	3	3
Total	85	17	34	0	20	17.75

According to Tables 51, 52, and 53 janitors are not performing as many repairs as they ought, nor as much painting as they might. Principals do all the clerical work that janitors are supposed to do, if it is done at all. Schools A, B, D, E, J, and L made a good showing in the care of grounds. It was a joy for the scorers to observe these grounds. The scores on custodial duties indicate that the janitors are assuming these duties to a very limited extent. More attention should be given to fire precautions. The low scores of the schools on miscellaneous jobs could be easily raised by the janitor's being used instead of pupils.

Chapter VI

Summary and Conclusions

The purpose of this study is to determine the facilities provided for janitorial service and the quality of service performed by the janitors in twelve high schools of Northeast Alabama. There were three types of schools represented, namely, city, large rural, and small rural high schools. Four schools of each type were scored by the Engelhardt-Reeves-Womrath Score Card for Public School Janitorial-Engineering Service.

The following statements summarize the results of the investigations:

1. The range of total scores on janitorial service of the twelve schools was from 218 to 613 out of a possible 1,000, the average score being 428.2.
2. The janitorial service of the city high schools rated better than that of either the large or small rural schools, the average scores being 529.50 for the city, 399.25 for the large rural, and 355.75 for the small rural. These scores were based on a total possible score of 1,000.
3. Only 25 per cent of the major headings of janitorial service received a "good" score. The remainder ranged from "unsatisfactory" to "fair".
4. The average score on administration of janitorial service was 24 out of a possible 40. The score on personnel was slightly better. Building facilities are inadequate, as is indicated by a score of 5.67 out of a possible 20. Janitors are overloaded in eight of the twelve schools.
5. The average scores out of a possible total of 125 on daily cleaning of floors were 86.75 in the city schools, 68.50 in the large rural schools, and 61.23 in the small

rural schools. The percentage made on dusting is nearly 36.8. Scrubbing and mopping is almost a negligible factor in the janitorial service of the schools studied. On oiling of floors the average score for all the schools was somewhat better than half of the total possible score. Cleaning and polishing of woodwork and furniture is neglected, as is indicated by an average score of 9.08 out of a possible 30. The schools had a percentage grade of about 40 on washing glass. Blackboard cleaning rated about fifty per cent and eraser cleaning about thirty-three per cent. The average score on toilet cleaning was 32.42 out of a possible 80. The average score on miscellaneous cleaning was 20.08 out of a possible 55. Heating and ventilating made an average score of 57.17 out of a possible 150, while the score on special work was 26.92 out of a possible 85.

Conclusions

The evidence found in this investigation shows that:

1. Boards of education have not provided adequate facilities for janitorial service.
2. Janitors do not perform their work efficiently.
3. School administrators should make definite provisions for the training of janitors in service.

4.

BIBLIOGRAPHY

Books

Belser, Danylu, Conditions and Practices Influencing the Elementary Education of White Children in the Public Schools of Alabama. (Birmingham Printing Company, Birmingham, Alabama.)

Cubberley, E. P., The Principal and His School, Chapter XI. (Houghton Mifflin Company, Boston, 1923.)

Dresslar, Fletcher B., School Hygiene, Chapter XXIV and XXV. (The Macmillan Company, New York, 1930.)

Engelhardt, N. L. and Fred, Public School Business Administration, Chapter XVI. (Bureau of Publications, Teachers College, Columbia University, New York, 1927.)

Engelhardt, N. L., Reeves, C. E., and Womrath, G. F., Standards For Public School Janitorial-Engineering Service. (Bureau of Publications, Teachers College, Columbia University, New York, 1928.)

Reeves, C. E. and Ganders H. S., School Building Management. (Bureau of Publications, Teachers College, Columbia University, New York, 1928.)

Reeder, Ward G., The Business Administration of a School System. (Ginn and Company, Boston, 1929.)

Sears, J. B., The School Survey. (Houghton Mifflin Company, Boston, 1925.)

Smith, Harry P., Business Administration of Public Schools, Chapter XI. (World Book Company, New York, 1929.)

Periodicals

Anderson, W. N., "The Janitor and Janitorial Service," The American School Board Journal (Sept., 1923), Vol. 67, No. 3.

Dalthorp, C. J., "How To Improve Janitorial Service in the Smaller City Schools," The Nation's Schools (July, 1930), Vol. 1, No. 1.

- Garber, J. A., "The Janitor's Importance," The Nation's Schools, (Jan., 1928), Vol. 1, No. 1.
- Garber, J. A., "Qualifications of the Janitor," The Nation's Schools (Feb., 1928), Vol. 1, No. 2.
- Lovejoy, Philip, "Securing Efficient Janitorial Service," The Nation's Schools, (Jan., 1929), Vol. III, No. 1.
- Nibecker, A. S., Jr., "A Building and Janitorial Survey of the Los Angeles School Buildings," The American School Board Journal (Aug., 1929), Vol. 79, No. 2.
- Reeves, C. E. and Ganders, H. S., "Importance and Present Status of the School Janitor-Engineer," The American School Board Journal (Sept., 1929), Vol. 79, No. 3.
- Reeves, C. E., "The Science of Floor Treatment," The Nation's Schools (July, 1931), Vol. VIII, No. 1.
- Reeves, C. E., "When and How Shall the School Floors Be Cleaned?," The Nation's Schools (June, 1929), Vol. VII, No. 6.
- Tracy, J. M., "Financial Rewards of Janitors as Adopted at Rochester," The Nation's Schools, (Dec. 1928), Vol. II, No. 6.
- Womrath, G. F., "The Janitor-Engineer Problem," The American School Board Journal (Dec. 1924), Vol. 69, No. 6.

SCORE CARD
for
PUBLIC SCHOOL
JANITORIAL-ENGINEERING SERVICE

By

N. L. ENGELHARDT
PROFESSOR OF EDUCATION
TEACHERS COLLEGE, COLUMBIA UNIVERSITY

C. E. REEVES
DEPARTMENT OF EDUCATION
ELMIRA COLLEGE, ELMIRA, N. Y.

AND

G. F. WOMRATH
BUSINESS SUPERINTENDENT
MINNEAPOLIS PUBLIC SCHOOLS
MINNEAPOLIS, MINN.

Name of School Date

City State Scorer

INSTRUCTIONS FOR USING CARD—(1) Basis for scoring, 1000 points. (2) For scoring, three columns are allowed. While actually at work on a building only the first need be filled out, the second and third to be filled out at leisure. All scores should be recorded on the basis of the standards outlined in the bulletin: "Standards for Public School Janitorial-Engineering Service" by N. L. Engelhardt, C. E. Reeves, and G. F. Womrath, published by Bureau of Publications, Teachers College, Columbia University, New York City.

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NEW YORK CITY

Engelhardt-Reeves-Womrath Score Card for Janitorial-Engineering Service

	1	2	3
I. ADMINISTRATION OF JANITORIAL-ENGINEERING SERVICE	40		
A. Method of Employment	5	5	
B. To Whom Responsible	10	10	
C. Tenure	5	5	
D. Remuneration	10	10	
E. Provision for Substitute Service	5	5	
F. Uniforms	5	5	
II. PERSONNEL	90		
A. Education and Training of Janitor-Engineers	25		
1. General education	5		
2. Special training for janitorial-engineering service	5		
3. Examinations for appointment	5		
4. Experience	10		
B. Physical Condition of Janitor-Engineers	20		
1. Ages	5		
2. Health	10		
3. Physical defects	5		
C. Sex of Employees	2	2	
D. Marital Condition	3	3	
E. Characteristics and Habits of Employees	40		
1. Attitude towards principal, teachers, and pupils	5		
2. Attitude towards work	15		
3. Personal appearance of employees	7		
4. Voice and language of employees	1		
5. Use of tobacco, intoxicating liquor, and drugs	2		
6. Moral influence on pupils	10		
III. BUILDING FACILITIES FOR JANITORIAL-ENGINEERING SERVICE	20		
A. Office	1	1	
B. Workroom	5	5	
C. Necessary Tools	5	5	
D. Storeroom for Janitorial-Engineering Supplies	5	5	
E. Janitor-Engineers' Toilets	2	2	
F. Chute to Basement for Dirt and Rubbish	1	1	
G. Chimney Flue for Burning Rubbish	1	1	
IV. AMOUNT OF WORK REQUIRED PER JANITOR-ENGINEER	40		
A. Floor Area per Janitor-Engineer	15	15	
B. Playground and Lawn Area per Janitor-Engineer	10	10	
C. Enrollment of Pupils per Janitor-Engineer	15	15	
V. DAILY CLEANING OF FLOORS	125		
A. Frequency of Cleaning	25		
1. Classrooms and special rooms	15		
2. Corridors and stairs	8		
3. Radiators	2		
B. Time of Cleaning	5	5	
C. Effectiveness of Results	30	30	
D. Average Time Required to Clean Classroom and Cloakroom	5	5	
E. Conditions Affecting Daily Cleaning	10		
1. Kind of floor	5		
2. Type and amount of furniture in each classroom	3		
3. Size of room	2		

	1	2	3
F. Equipment and Tools Used for Cleaning	25	25	
G. Treatment of Floors	15	15	
H. Method of Procedure in Daily Cleaning	10	10	
VI. DUSTING			80
A. Frequency of Dusting		20	
1. Classrooms and special rooms	6		
2. Woodwork	5		
3. Walls and ceilings	3		
4. Wall pictures, window shades, etc.	3		
5. Radiators and space beneath them	3		
B. Time of Dusting		20	
1. Classrooms	6		
2. Woodwork	5		
3. Walls and ceilings	3		
4. Wall pictures, window shades, etc.	3		
5. Radiators	3		
C. General Effectiveness of Dusting	15	15	
D. Average Time Required to Dust 40 Pieces of Classroom Furniture	2	2	
E. Conditions for the Prevention of Dust in Rooms	3	3	
F. Tools and Appliances Used for Dusting	10	10	
G. Tools and Appliances Used for Dusting Woodwork, Walls, Ceilings, etc., Above the Reach of the Janitor-Engineer	4	4	
H. Treatment of Dusters	2	2	
I. Method of Procedure in Dusting	4	4	
VII. SCRUBBING AND MOPPING			70
A. Frequency of Scrubbing and Mopping*	15	15	
a. Preserved floors: give full credit			
b. Oiled floors: deduct 8 points			
c. Unoled floors: deduct 10 points			
d. Vacuum cleaned floors: deduct 5 points			
B. Time of Scrubbing and Mopping*	3	3	
a. Preserved floors: deduct 1 for each <input type="checkbox"/> treatment not given			
b. Oiled floors: deduct 1 for each treatment <input type="checkbox"/> not given			
c. Unoled floors: deduct in proportion to <input type="checkbox"/> treatments not given			
d. Vacuum cleaned floors: deduct 1 point for <input type="checkbox"/> each treatment not given			
C. Conditions Affecting Scrubbing and Mopping		7	
1. Kind of floor	3		
2. Kind of furniture	2		
3. Condition of playground	2		
D. Equipment and Tools Used for Scrubbing and Mopping	15	15	
E. Cleaning Agents and Treatment	5	5	
F. Method of Procedure in Scrubbing and Mopping	10	10	
G. Effectiveness of Results	15	15	
VIII. OILING OF FLOORS			30
A. Frequency of Oiling Floors	3	3	
B. Time of Oiling Floors	2	2	

* Score on the basis of one method only.

	1	2	3
C. Condition of Oiled Floors at Time of Observation	10	10	
D. Conditions Affecting Oiling	2	2	
E. Tools and Appliances Used for Oiling	5	5	
F. Method of Procedure in Oiling	5	5	
G. Amount of Oil Used per 700 Square Feet of Classroom Area	3	3	
IX. CLEANING AND POLISHING OF WOODWORK AND FURNITURE			30
A. Frequency of Cleaning and Polishing Woodwork and Furniture	3	3	
B. Time of Cleaning and Polishing	2	2	
C. Condition of Woodwork and Furniture at Time of Observation	10	10	
D. Conditions Affecting Cleaning and Polishing	2	2	
E. Materials Used	3	3	
F. Tools and Appliances Used in Cleaning and Polishing Woodwork and Furniture	5	5	
G. Method of Procedure in Cleaning and Polishing Woodwork and Furniture	5	5	
X. WASHING GLASS			60
A. Frequency of Washing Windows	12	12	
B. Frequency of Washing Inside Glass other than Windows	10	10	
C. Time of Washing Glass	2	2	
D. Condition of Windows at Time of Observation	15	15	
E. Time Required to Clean 2,000 Square Inches of Window Glass Area on the Outside	2	2	
F. Conditions Affecting the Cleaning of Glass	2	2	
G. Tools and Appliances Used in Cleaning Glass	10	10	
H. Cleaning Agents and Treatment	4	4	
I. Method of Procedure in Cleaning Glass	3	3	
XI. TOILET CLEANING			80
A. Frequency of Cleaning Toilet Room Floors	10	10	
B. Frequency of Cleaning Toilet Room Bowls, Seats, and Urinals	10	10	
C. Time of Cleaning Toilet Room Floors, Bowls, Seats, and Urinals	5	5	
D. Condition of Toilets as to Cleanliness and Odor at Time of Observation	30	30	
E. Conditions Affecting Cleaning of Toilet Rooms	5	5	
F. Tools, Appliances, and Agents Used for Cleaning Toilet Room Floors	5	5	
G. Tools, Appliance, and Agents Used for Cleaning Toilet Bowls, Seats and Urinals	5	5	
H. Procedure in Cleaning Toilet Room Floors	5	5	
I. Procedure in Cleaning Toilet Bowls, Seats, and Urinals	5	5	
XII. BLACKBOARD CLEANING			30
A. Frequency of Cleaning Blackboards	5	5	
B. Time of Cleaning Blackboards	2	2	
C. Condition of Blackboards at Time of Observation	10	10	
D. Time Required to Clean 100 Square Feet of Blackboard Area	4	4	
E. Conditions to Facilitate Blackboard Cleaning	2	2	

	I	2	3
F. Appliances, Agents, and General Methods Used in Cleaning Blackboards	5	5	
G. Method of Procedure in Cleaning Blackboards	2	2	
XIII. ERASER CLEANING			15
A. Frequency of Cleaning Erasers	5	5	
B. Time of Cleaning Erasers	2	2	
C. Cleanliness of Erasers After Cleaning or at Time of Observation	3	3	
D. Method of Cleaning Erasers	5	5	
XIV. OTHER CLEANING			55
A. Condition of Chalk Trays	2	2	
B. Condition of Cork Boards	2	2	
C. Condition of Metal Fixtures	2	2	
D. Condition of Drinking Fountains, Sinks, and Lavatories	5	5	
E. Condition of Inkwells	3	3	
F. Condition of Basement Rooms Used as Playcourts, Gymnasiums, etc.	2	2	
G. Cleanliness of Office and Rest Room Carpets, Rugs, and Curtains	2	2	
H. Cleanliness of Door Mats and Foot Scrapers	2	2	
I. Cleanliness of Gymnasium Mats	2	2	
J. Cleanliness of Umbrella Trays	2	2	
K. Cleanliness and Condition of Janitor-Engineer's Tools	5	5	
L. Condition of Inside Glazed Brick	2	2	
M. Cleanliness of Waste Paper Baskets	2	2	
N. Chewing Gum, Ink Stains, and Chalk and Pencil Marks on Floors, Walls, and Furniture	5	5	
O. Removal of Sawdust and Shavings from Manual Training Rooms	5	5	
P. Removal of Garbage from Domestic Science Rooms	5	5	
Q. Methods of Disposing of Waste Paper, Sweepings, etc.	5	5	
R. Cleaning and Disinfecting Hand Rails and Door Knobs	2	2	
XV. HEATING AND VENTILATING			150
A. Method of Firing Furnace*		40	
1. Frequency of firing	10		
2. Amount of coal fed to furnace at each firing	20		
3. Condition of the fuel bed	10		
B. Method of Bringing Coal from Bin to Furnace	10	10	
C. Removal and Disposal of Ashes	5	5	
D. Temperature Control: Thermostats	15	15	
E. Fluctuation and Degrees of Temperature Maintained	25	25	
F. Frequency and Method of Cleaning Boiler Flues	15	15	
G. Cleaning Inside of Hot Water Tanks, Catch Basins, Receiving Tanks, etc.	5	5	
H. Miscellaneous Firing Jobs	5	5	
I. Regularity of Caring for Ventilating Apparatus	5	5	
J. Hours and Time at Which Ventilating Apparatus is in Operation	5	5	
K. Cleanliness of Boiler, Engine and Fan Rooms	20	20	

* Make proper corrections for use of oil, gas, etc.