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I hereby recommend that the thesis prepared under my supervision by JAMES ARTHUR MOORE

entitled A Technique For the Appraisal of the Health Program of a Large Elementary School

be accepted as fulfilling this part of the requirements for the degree of DOCTOR OF EDUCATION

Approved by:

Helen Coops

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Gordon Hendrickson

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A TECHNIQUE FOR THE APPRAISAL OF THE HEALTH PROGRAM OF A LARGE ELEMENTARY SCHOOL

A dissertation submitted to

The Graduate Faculty of the Teachers College
of the University of Cincinnati

in partial fulfillment of the
requirements for the degree of

DOCTOR OF EDUCATION

1938

by

James Arthur Moore
B. S. University of Pittsburgh, 1926
M. Ed. University of Cincinnati, 1934

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CHAPTER I

INTRODUCTION

Statement of the Problem

The major problem of this study is to devise a technique for the appraisal of the health program of a large elementary school. The study proposes to illustrate and to validate the use of the technique by applying it to the Harriet Beecher Stowe School of Cincinnati, Ohio. Subsidiary problems related in the main to this illustrative situation may be stated as follows:

1. What are the responsibilities of an elementary school in matters of health to pupils and to the community in general, in such a district as the West End District of Cincinnati?
2. What constitutes a good modern health program in such a school.
3. Can the present health program of Stowe School be determined, be measured objectively, and be compared to existing standards?
4. Should the present program be improved and, if so, how?
5. What are the best recommendations for improvement from an ideal point of view?
6. What are the best recommendations from a practical point of view?

Background of the Problem

General Conditions.- The appraisal and improvement of the health status of the individual are two of the outstanding social considerations of modern civilization. That health activity has reached this foremost position is evidence of the strides of progress the world has made in its fight against disease. The activities of the League of Nations in developing an effective system of informing the world of the prevalence of disease, in placing the most advanced scientific thought of one country at the disposal of other countries, and of cooperating in studies of such problems as malaria, cancer, and infant mortality represent an international and concerted effort in the improvement of health conditions throughout the world. The majority of European countries, working individually, have achieved some distinction in the field of health protection and improvement. England is outstanding for its high level of public health service, the most distinctive features of which are the qualifications required of its personnel. Denmark and Holland deserve notice for their success in dealing with problems of child mortality. Germany, Austria, and Russia have gained distinction for legislation requiring sickness insurance. Poland and Jugoslavia are noted for their centralized health programs. (9:652-656). So definite has been the consideration given to health in the United States that those agencies which contribute to health improvement are having a far-reaching effect upon old established social institutions. Recreation may be cited as an example. The growth of this movement has largely been dependent upon the fluctuations of employment in industry. The conditions caused by the resulting leisure time have affected legislation, industry,

the school, the church, and the family (37:912-957). Public health clinics in this country, too, are becoming popular because of the demand of the masses for medical treatment at moderate cost (26:1061-1065). Hence, health improvement seems to occupy a position of prominence in world affairs and, while the method of obtaining this condition varies among the nations of the world, there is that common element of positiveness of approach which seeks prevention of disease rather than waiting for symptoms to occur.

Organized attacks from a positive viewpoint are comparatively recent. Historically, the first attacks on health problems in the United States were concerned only with the relief and cure of distressing conditions. Next came preventive sanitation through inoculation and vaccination. The modern trend in health work is characterized by its emphasis upon individual education which aims to improve individual health conditions. Preventive sanitation of school buildings and the inoculation of school children came as a result of the published unsanitary conditions of the schools and the recurring epidemics of children's diseases each year. The first school physician, as a consequence, was appointed in 1894, and his first function was to control the communicable diseases of children. As the number of school physicians increased, it was observed that children, other than those suffering from communicable diseases, were in need of medical attention, and the concept of child health protection thus took on new meaning. Protection came to include the examination of children and the follow-up and correction of their defects. Modern health education philosophy has broadened the concept of child health protection even beyond the limits of medical care. Today school health protection utilizes in an educational way the examination and follow-up and correction

to develop habits of prevention (42:7-12).

It would seem, therefore, that society as a whole has become aware of the important role preventive health measures play in social security and has developed two powerful weapons of prevention: (1) public health activities in the community; and, (2) an emphasis upon health in the schools.

The Selected Situation.- The Major educational institution of the West End District of Cincinnati, Ohio faced with bad health and social conditions, presents an excellent opportunity to validate the proposed technique of health appraisal in all of its phases.

The section in which the school is located is predominantly Negro, with special problems of housing, low incomes, tuberculosis, and crime. The Public Health Federation of the city has done much to make the true conditions known to the public through three of its studies of the district. The first study estimates that one-half of the Negro population of the city is housed under bad conditions, one-fourth under fair conditions, and one fourth under good conditions (32:1-7). It further shows that where bad housing prevails, the population density is the greatest. The second study is concerned with the various factors which are basic in Cincinnati's very high tuberculosis mortality, one of the most dominant factors being a large Negro population (2). At the time of the study, the tuberculosis death rate was 500 per 100,000 population classed as badly housed. The third study deals with a comparison of Cincinnati's mortality with other cities of similar size and similar problems and a refinement of those rates based upon a comparison of race, sex, and age mortality (1:3-5).

An indication of the distribution of the Negro population according to tracts and economic groups and the death rate in the various groups will be found in the following tables:

TABLE I

DISTRIBUTION AND MORTALITY RATES OF NEGRO POPULATION DURING PERIOD 1929-1931 ACCORDING TO ECONOMIC GROUPING AND CENSUS TRACTS

Economic Groups	Census Tracts	Population	Mortality Rates per 1000
I	1,2,3,5,8,12	27,373	24.5
II	4,7,21,36,44	13,814	17
III	34,37,55	4,553	17.9*
IV	34,37,55	2,076	

TABLE II

DISTRIBUTION AND MORTALITY RATES OF WHITE POPULATION DURING PERIOD 1929-1931 ACCORDING TO ECONOMIC GROUPING ONLY

Economic Groups	Population	Mortality Rates per 1000
I	83,034	15.8
II	101,106	11.9
III	106,443	13.3
IV	110,759	9.8

*Figures available for groups III and IV combined.

The basis of this study are the census tracts as supplied by the Federal Census Bureau, and a mathematically derived economic grouping of the city's population. Allen describes this economic grouping as follows (1:3):

> The economic rating for each census tract is the figure derived from the sum of the products of the median value of owned homes and of rents paid times the respective numbers of houses involved, divided by the total owned and rented homes. The resulting figure is an index of economic status or . . . . . the equivalent monthly rental.
>
> The range of these indices for the 107 census tracts was found to be from 117 to 1175. For convenience of study and to correlate mortality findings with economic status, the population was divided into quartiles according to ascending rank in the indices.

Economic Group I is the lowest, and the census tracts of this group make up the West End District, commonly called the "basin" or "bottoms". Of the six leading causes of death for the combined race groups, according to age, for the entire city during the period, four showed higher mortality among the Negroes than among the whites. In each instance the combined mortality rate for both races was higher in the lowest economic group than in any of the other groups (1:3-145). Tuberculosis was the leading cause of Negro deaths and, as indicated by the table, the majority of Negroes are in the lowest economic group and live in the basis of the city. Groom found that while Negroes constituted ten per cent of the population during the years 1929-1931, they contributed forty-three per cent of the total tuberculosis death rate (17). A partial explanation of the enormous health problems caused by this district and also a partial explanation as to the slow progress made by the public health activities in the face of these conditions are found in the history of the Negro in Cincinnati.

Since the Civil War there have been great migrations of Negroes from the South. Cincinnati was the doorway to the northern cities. Many of the families settled in the basin, and the immigration laws, enacted just after the World War and limiting the number of aliens entering this country, enabled these families to remain because of the demands upon their labor. So rapidly grew the black population of the city that during the decade between 1920 and 1930, it was estimated that one-fourth of the city's total increase in population was Negro. As a result there were crowded living conditions, disease, high mortality rates, and other bad social conditions. The mode of living of a southern rural district was hopelessly inadequate for the demands of a crowded city. Public health activities are consequently faced with two factors which have contributed to the slow progress made: (1) the recency of the conditions, and (2) the difficulty of changing established habits in adults.

It is to the school, then, that falls the major task of establishing preventive habits of health in this district. Stowe Elementary School, with its colonies, Jackson and Sherman Schools, centrally located in this community of approximately 30,000 Negroes, attended by 2,000 Negro children, and faced with the problem of bad environmental conditions presents a rare opportunity to validate the technique.

Significance and Limitations of the Study

For convenience, modern health educators have divided the health program into three phases: health environment, health service, and health instruction. The literature on school health reveals an abundance of studies which have devised means for including standards in these three

separate phases. There is significant educational value in a technique which integrates and has a common thread of meaning running through all three phases of health program. Such a procedure would determine, for example, the thoroughness of follow-up and correction, and how much these procedures contributed to the teacher's knowledge and to health instruction in the classroom. In this lies the chief value of the present study.

During the course of the investigation there were certain difficulties which placed limitations on the study as a whole. They were: (1) the confining of the study to the first six grades; (2) subjective measures which had to be used in evaluation; (3) difficulties in securing the home interviews; and (4) the attitude of the administration.

Various factors prevented the inclusion of the seventh and eighth grades of Stowe School in the study. To have included the junior high school would have required a double rating of the building, first as an elementary school building and second, as a combination school building. Furthermore, provisions for play would require a different type of rating in the elementary school than in the junior high school. From the point of view of the child, the junior high school pupil has his own particular characteristics and would, therefore, be the basis of another study.

The very nature of the health environment makes it difficult to measure objectively. Experts agree that an adequate physical environment and a well organized school day do contribute to the health of the pupils. There are, however, no available measuring devices to determine the extent of the influence of the school environment upon the health of individuals. The devices used in this study aim to secure the best

judgment as to the adequacy of each phase of the environment, but at best, these expressions are purely subjective.

The home visits, while easy to arrange in most instances, did present difficulties often due to change of address and working schedule. In some cases, interviews could not be arranged until late at night. Very often four visits had to be made to obtain one interview. Many of the addresses had to be rechecked with the teacher before obtaining the correct address of the pupil.

The fact that the law prohibits the publishing of facts relative to pregnancy and venereal disease found in the school, forced the investigator to drop certain lines of investigation pertinent to the study.

Definition of Terms

In order to clarify the terminology used in the present study and to establish the scope of the modern health education program, a definition of terms is herein presented. Out of the definitions grow certain lines of endeavor which are guides to the aims of health education.

The terms employed in this investigation are those adopted by the American Physical Education Association.[1] The manner in which the Association prepared the definitions demands special mention (20:16-18). In 1934 the Health Education Section of the Association drew up a list of common terms used in health education, and individual members proposed definitions. To these were added definitions from two members in the field. The definitions were sent to eighty-five persons engaged in

---

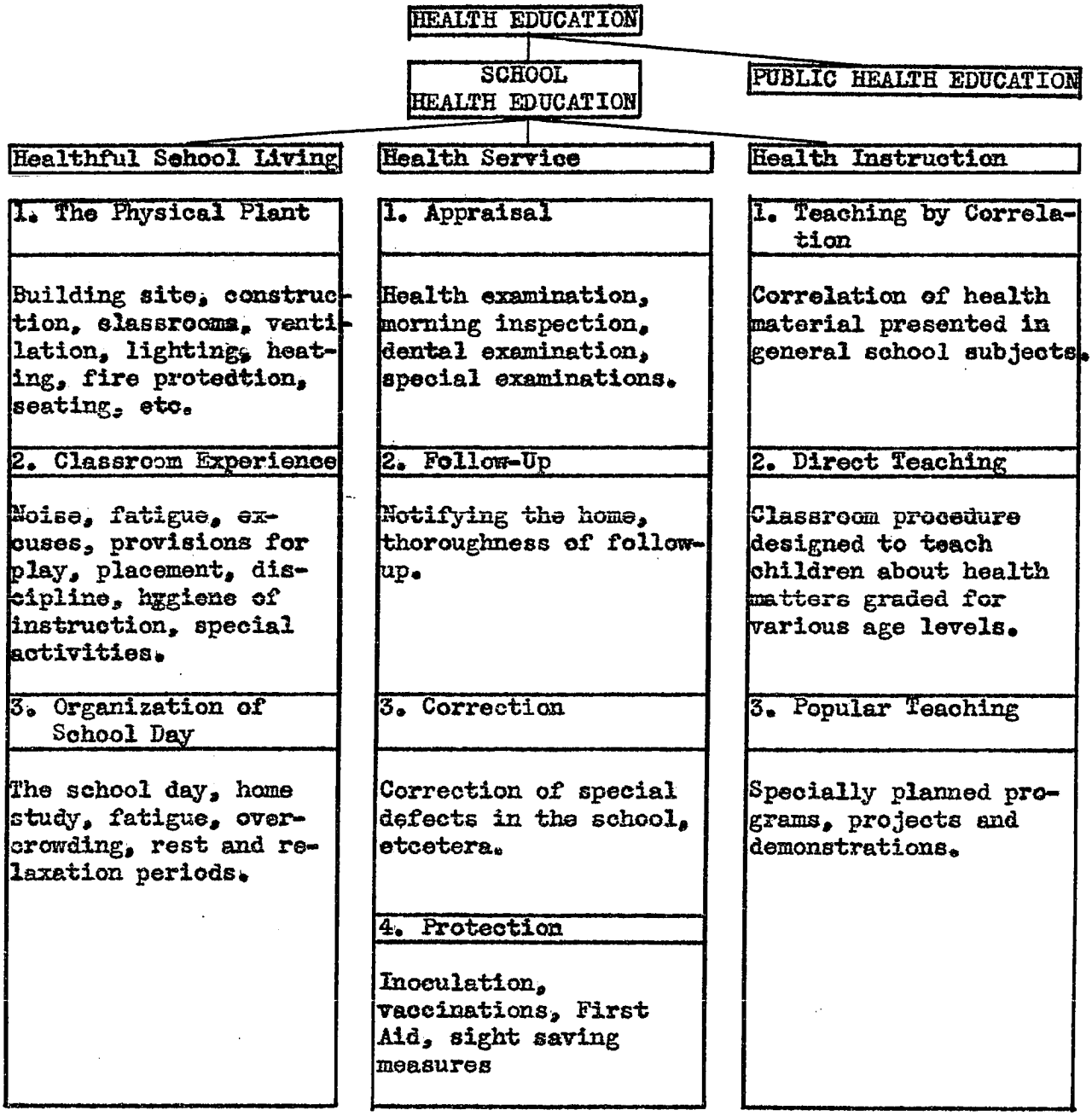
[1] The name of the Association was changed in September, 1937, to American Association for Health and Physical Education - A Department of the National Education Association.

health education work, asking them to indicate with numbers 1, 2, and 3 their preference for the proposed definitions. The returns were approximately seventy-four per cent and had a great influence upon the committee's final preparation of the definitions. Those adopted by the Association are as follows (20:16-18).

> Health Education is the sum of all experiences which favorably influence habits, attitudes, and knowledge relating to individual, community, and racial health.
>
> School Health Education is that part of Health Education that takes place in school or through efforts organized and conducted by school personnel.
>
> Public Health Education is that part of Health Education that takes place in home and community.
>
> Hygiene is the applied science of healthful living; it provides the basic scientific knowledge upon which desirable health practices are founded.
>
> Sanitation is the application of scientific measures for improving or controlling the healthfulness of the environment.
>
> Health in the organism is that condition that permits optimal functioning of the individual enabling him to live most and to serve best in personal and social relationships.
>
> Healthful School Living is a term that designates the provision of a wholesome environment, the organization of a healthful school day, and the establishment of such teacher-pupil relationships that give a safe and sanitary school favorable to the best development and living of pupils and teachers.
>
> Health Service comprises all those procedures designed to determine the health status of the child, to enlist his cooperation in health protection and maintenance, to inform parents of the defects that may be present, to prevent disease, and to correct remedial defects.
>
> Health Instruction is that organization of learning experiences directed toward the development of favorable health knowledge, attitudes, and practices.

The definitions of healthful school living, health service, and health instruction serve as a basis for dividing the school health program conveniently into three different aspects. All of the health activities

of the school fall naturally into these divisions and provide three lines of endeavor in the health education field. The following chart graphically illustrates the divisions and these activities which are included under these divisions.



Review of the Literature on School Health

The studies and publications included in this review are classified according to nationally known organizations which sponsored them, and according to individuals. Only studies which have some direct bearing on the present study are included.

The American Child Health Association.- Palmer headed a survey staff which prepared a questionnaire to determine the health practices of school children in eighty-six cities (27). The cities studied had a population from 40,000 to 70,000. In each of these cities the survey staff spent five days. The questionnaire was given to one-fifth grade class in each school visited, and the responses from 35,000 children were received. A summary of the findings showed that sixty-nine cities provided medical service, eighty-four had some nursing service in the schools, and there was always provision made for some kind of physical examination or inspection. The examination, however, tended to be superficial and lacked standardization.

Franzen, as director of the Association's Research Department, undertook a study in 1926 to evaluate the school health programs as carried on in various cities. The first of these studies devised tests in order to classify the schools according to pupil achievement in health education (10). The second study attempts to derive measures in the general field of growth, development, and nutrition primarily as a research tool, but also keeping in mind their practical utility in the routine procedures of the school (11).

The third study presented an analysis of decay in children's teeth from which a measure of the condition of the teeth was evolved (12). The fourth established a method of making allowances for the influence of social and economic factors in evaluating the school health program (13). The final monograph consists of procedures, determined through the application of the tests, which comprise an effective program (14). Each of these studies is an evaluation of separate phases of the health program, and all of them are confined to health service and health instruction.

The Proceedings of the Seventh Health Education Conference contains discussions of the leaders in the field of health (3). These discussions of the leaders deal with every possible phase of school health education. The value of such discussions to the present study lies in the expression of a modern health education philosophy.

The National Education Association.- The Joint Committee on Health Problems of the National Education Association has outlined in a report a program for public schools and teacher training institutions (18). The program was prepared on the basis of 120 responses from 700 requests for health education materials sent to state, city, and county superintendants, and to teacher training institutions. The purely technical material of the report was prepared by a sub-committee and submitted to the larger body for approval and criticism. The report gives the basic principles for the teacher and standards by which materials may be selected for activities in health education. It primarily stresses education and presents standards arrived at by the cooperation of educational leaders, school health workers, and medical specialists.

This same committee prepared questionnaires on representative and practical features of health service programs in school systems of the cities and large towns of the country and sent them to 622 school superintendents (19). The return from these questionnaires was over fifty-four per cent, and the precentage compiled on each item indicates the prevalence of practice on any given standard throughout the country.

United States Office of Education.- Rogers reports on the trends in teacher training institutions as to the methods used in preparing prospective teachers in school health procedures (33). Trends seem to indicate that school health activities center about the classroom teacher, and many institutions are making provisions to include in their courses in health education procedures built around the teacher.

White House Conference on Child Health and Protection.- A sub-committee of the Committee on the School Child of the White House Conference on Child Health and Protection made a study of school surveys in an attempt to examine the surveys of the last twenty-five years to determine what they contribute to school health standards (34). The study covered 137 general surveys and seventy-four surveys dealing with buildings. The study sought to determine the survey techinques used, the source of information consulted relative to school health, and the survey recommendations for the improvement of the program. The findings revealed that the administrative and plant facilities were often inadequate. The report shows the growth of the idea of medical treatment. The section on the curriculum shows that too much attention is given to hygiene, and that physical education is given a more prominent place than other phases of the program. Section III-C of the White House Conference, the Committee

on Education and Training, dealt with problems of school health activities on the various school levels. The findings of the committee point out the trends of health practices in school health throughout the country. One of the chief values of the study is the interpretation of the trends in the light of modern health education research (44).

Individual Studies and Publications.- Williams and Shaw have approached the problems of school health from the point of view of the terminology adopted by the Committee on Terminology in Health Education of the Health Section of the American Physical Education Association (53). They discuss and present standards of the school health program in terms of three separate divisions: healthful school living, health service, and health instruction.

Phelan investigated those school health standards which were controversial issues (28). The study consisted of the following: (1) a collection of health standards through a survey of the literature, (2) the organization of those standards into an inventory list based upon general acceptance, (3) the preparation of a rating scheme to discover whether the standards were actually acceptable to those engaged in school work, and (4) the presentation of the materials to raters. Each standard to be accepted had to receive a certain median rating. The remainder of the standards were isolated to determine why they were not acceptable and to analyze them in the light of the extent to which present practices, school health trends, and research might support the provision of such standards. The results of the study indicate that controversial issues in school health education can be isolated; they further reveal the value of subjecting school standards to critical scrutiny by a conference type of study.

Kelly and Knowlton present the results of a school health program in Bingham, N. Y. (21). Theirs is a description of the administration of health examinations, follow-up, and correction in the elementary and high schools of a comparatively small city.

Williams describes a type of appraisal form used to evaluate a health program in its various phases (53:298). The form is in the same category as the rating score card for school buildings and contains a set of standards with assigned numerical values. If a standard is fully met on an item of the score card, full score is credited to that item, and if the standard is only partially met, a lower value is assigned to the item. The form usually contains standards on the physical plant, facilities, and services. Tests are used to measure the effectiveness of the instruction.

The appraisal forms and the present study present similar approaches to the problem of evaluating a health program. The former is a list of standards the presence or absence of which determine the status of the program. The latter, while concerned with standards, is primarily an attempt to develop a technique which reveals the causes of the present conditions and which presents an integrated picture of the whole program.

The survey of the literature shows that many of the investigations have been made in the separate fields of health education. The rapid growth of the literature on school health during the last quarter century is possibly explained by the demands of the modern philosophy of education. Educational theory today stresses a harmonious physical, mental, and social development of children. As a result, studies in all phases of education have grown to vast proportions. The field of health education has been no

exception, for research in the field has aimed to broaden the scope of the health program to meet the demands of modern education. The method of broadening the scope, as revealed by the literature, has been the inclusion of standards based upon surveys and expert opinion. Standards added in such a way fail to consider the needs of the pupil and the community in a given situation and, consequently, must become a part of the separate phases of the health program. Franzen's studies are an exception. His modern health program includes standards which have been proved experimentally to have a definite relationship to good school work. The studies, however, present an integrated picture of just two phases of the program: health service and health instruction. The present study is unique in that it develops a technique for evaluating a school program in terms of the needs of the pupil and the community. Furthermore, the technique is a method of including standards on the basis of actual measurement.

Outcomes

The most important outcome of this study is a technique which will measure the effectiveness of an elementary school health program in terms of the needs of the pupils.

Another significant outcome beyond the stated problem of the study consists of the amount of interest aroused in matters of health during the actual conduct of the survey. Persons contacted became aware of the importance of health as a protective measure. Interest was expressed in the use of tests for diagnostic purposes in teaching. New problems relative to health attitudes, the degree of impairment of teeth, and a course of study for health instruction were suggested for investigation.

Summary

1. The main problem of this study is to devise a technique for the appraisal of the health program of a large elementary school. The study proposes to illustrate and to validate the use of the technique by applying it to the Harriet Beecher Stowe School of Cincinnati, Ohio.
2. The civilized world as a whole has sought social security in its fight against disease through the improvement of the health status of the individual. As a result of this world activity, two powerful weapons have been developed with which to establish preventive measures in a community: (1) public health activities, and (2) health activities in the school.
3. The bad social and health conditions confronting the school situation in which the technique is validated are exacting in establishing the validity of the technique.
4. The development of the technique is a significant contribution to educational research because it presents an integrated picture of the whole program. However, as used in the Stowe School situation it admits of the following limitations:
   (1) It is used only in the elementary school.
   (2) The nature of the health environment makes it difficult to measure objectively.
   (3) Difficulties were encountered in securing the home interviews.
   (4) The attitude of the administration prevented the inclusion of certain lines of investigation.

5. The definition of terms establishes through authority the school health program and determines what is to be surveyed. For convenience the program is divided into health school living, health service, and health instruction.

6. A survey of the literature on school health reveals the fact that many studies exist but none are found which present an integrated picture of the program in all of its phases.

7. The most important outcome of the study is a technique for the evaluation of an elementary school health program. An additional outcome beyond the stated problem is the amount of interest aroused in health during the conduct of the investigation.

CHAPTER II

THE METHOD OF PROCEDURE

The method or procedure employed in the collection of the data of the present study consists in the use of a combination of the following survey devices: (1) the rating scale, (2) tests, (3) the questionnaire, and (4) the interview. The devices were adopted because the wide variety of information sought demanded different types of data-gathering tools. A further justification for the selection of the devices is the fact that the purpose of the study required instruments which, when applied during the investigation, would bring to light data that could be compared to existing standards. After careful consideration, this combination of devices seemed to include the only practical tools of research which could adequately obtain the desired information from such a variety of sources.

The manner in which the devices may be used depends upon what is actually to be surveyed. The separate problems involved in their use are: (1) analyzing the literature to determine what is a good modern school health program; (2) setting up a battery of data-gathering devices which will objectively describe the health program of selected elementary schools; (3) evaluating the data in terms of the established standards; and (4) making recommendations for improvement. These four problems constitute the proposed technique which must be validated in the following chapters. A preliminary problem apart from these considerations is the securing of of permission to make the study.

Permission to Make the Study

In January, 1936, permission was granted by the Superintendent of Schools to make the study in Stowe School, providing permission could be obtained from the Director of Health and Physical Education, and the Principal of Stowe School. Permission from these persons was obtained the week following the interview with the Superintendent. In each instance, however, the investigator was warned that the law forbade the publishing of facts relative to pregnancy and venereal disease found in any public school.

The organization of health work in the schools made is necessary to obtain permission from other sources. The Stowe School physician and nurse are employed by the Board of Health. Therefore, permission to interview them and to use their records had to be secured from the Board. This permission was granted also in January, 1936.

The Proposed Technique

The major problem of this study is to devise an appraisal technique which is to be validated by application to a selected school health program. The solution of any problem by appraisal of necessity involves: (1) a criterion, (2) suitable data-gathering devices to describe a given situation, (3) a comparison of the situation being appraised to the standards, and, (4) a process of deduction to determine the procedures necessary to solve the problem. The following sections discuss each of these steps as component parts of the proposed technique.

The Modern School Health Program.- There is no existing school health program which might be termed the "best" program and which might serve as a criterion. Therefore, the study established, through a survey of the literature, an ideal theoretical situation to which conditions of a given situation might be compared. This criterion appears in the form of standards throughout the study as the ideal modern school health program.

The literature on school health problems provided the authority as to the scope of the modern health program. The authority is found in the definition of terms on page 11 by one of the most outstanding organizations in the field of health education. Diagram 1 classifies all of the activities of the school into appropriate divisions and determines what is to be surveyed in a given school situation. The divisions of the program are for convenience only and are designated as follows: (1) healthful school living which consists of the environmental factors of physical plant, classroom experiences of children, and the organization of the school for efficiency; (2) health service which comprises the health examination of school children and the follow-up and correction of their defects; and (3) health instruction which deals with the teaching of facts for the development of favorable health knowledge, attitudes, and habits.

The Data Gathering Devices.- The validity, the reliability, and the use of the measuring devices are best described in that phase of the program they are intended to measure, and as they were used in the Stowe School situation.

A. Healthful School Living: The steps involved and the devices used in securing data on the environmental aspects of Stowe School for purposes of comparison follow:

1. The Physical Plant: The Strayer-Englehardt Score Card for Elementary Schools (39:7-8) was used to determine how the standards of the physical plant of Stowe School compared with the standards of recognized authorities. This card deals with standards for elementary schools and includes divisions on the site of the building, service systems, general classrooms, general service rooms, and administration rooms. The items of each of these sub-divisions have been allotted a certain number of points by students in the authors' advanced classes of school administration at Columbia University. A total score of 1000 points represents the ideal situation in elementary school building construction, but wide experience in the use of the card indicates that very few buildings score over 900 points. The card was prepared in connection with the authors' book on elementary school building standards which is a compilation of some of the best work done in the field of school building construction (39). The card is reproduced in Appendix A page 190 of this study.

To secure the best possible opinion as to the degree the standards of Stowe School met the standards on the score card, three specialists in an advanced class in school administration at the University of Cincinnati gave separate ratings on the plant. The average rating on each item was accepted as final

judgment as to the adequacy of that item. In order to eliminate all details of measurement on the part of the raters, the investigator placed in the hands of each of them another form of the Strayer and Englehardt Rating Score Card which contained detailed information relative to classroom size, window area, size of corridors and similar facts. This information was secured from the original construction plans of the building at the Board of Education Offices and through a two-day survey of the building by the investigator. The rating card may be found in Appendix A , page 194.

2. The Classroom Experience: To obtain an expression of the conditions of the classroom experience, a questionnaire was constructed around such points as disciplinary problems, noise, fatigue, and provisions for play. The mechanics of questionnaire construction as outlined by Koos (22) were carefully followed. The questionnaire in tentative form was submitted for criticism to two members of the advisory committee for the investigation and to a graduate class in Physical and Health Education at the University of Cincinnati. On the basis of the criticisms, the questionnaire was revised and submitted to the teachers of the elementary grades in Stowe School. They had expressed a willingness to cooperate in the investigation during a conference prior to submitting the questionnaire to them.

Twelve of the twenty-seven questionnaires submitted, or forty-four per cent were returned. To increase the returns, the

investigator used the questionnaire as a basis and interviewed the remainder of the teachers. The returns increased to twenty in number or seventy-four per cent of the total. These twenty teachers represented the total number of teachers who were responsible for home rooms. The remaining seven were teachers of special activities. At the time of the investigation it was felt that the questionnaire was not so well adapted to teachers of special activities. Therefore, an interview was arranged with each of them to secure a description of the scope and conduct of their work.

Additional information was gathered through observation, class schedules, and an interview with the school psychologist.

3. The Organization of the School Day for Efficiency: The means of obtaining information concerning this aspect of the school environment was through an interview with the principal and through an inspection of the class schedules.

B. Health Service: The following devices were used to collect data related to health service:

1. The Franzen Teacher Health Procedure Test was applied, by means of interviews, to the twenty home room teachers of the elementary grades (14:113-127). The test sought to determine how well the health service activities of the school were integrated with the educational activities. The items on the test gave evidence on the following points:

a. A general school policy and method of procedure agreed on by the teacher and nurse.

b. An agreement with the oral hygienist as to procedure and policy on the dental program.

c. Mutual use of health records by teachers and nurse.

d. The nurse's possession of information gathered from the teacher in preparation for a home visit.

e. The initiative of the teacher in referring pupils to the nurse.

f. The attendance and participation of the teacher in the routine physical examination.

2. The Franzen School Health Procedure Test was applied to the health service activities of Stowe School to determine the thoroughness of examination, the thoroughness of the nurse's knowledge of procedures recognized as necessary to the successful school health program, and the degree to which the present program contributed to the nurse's growth and knowledge. The application of the test consists in observing the routine health examination over a period of days and rating the physician's procedure according to standards on the test. The rest of the test was applied by interviewing the nurse. These tests are found in Appendix B, page 210.

The tests are based on a study made in 1926 by the American Child Health Association to determine those procedures which constitute a good health program. The study consisted of applying a battery of sixteen tests, devised by the Association to fifth and sixth grade children of seventy schools selected at

random throughout the country. On the basis of pupil achievement on the tests, schools were rated as to the effectiveness of their health programs. The battery of tests may be classified into three groups: pupil knowledge, habit, and attitude tests, measures of care and preservation of teeth, and measures of personal hygiene. To the ten schools making the highest scores and the ten schools making the lowest scores were applied approximately 830 items on school health procedure. These procedures were of three types: Type A consisted of procedures which had the backing of expert opinion and should be found in any good school health program; Type B materials were procedures which had no concensus of opinion as to their relative worth in a program, but if present might contribute to its strength; and Type C materials were miscellaneous items on the health knowledge of the teacher which must be used in connection with other materials. The result of this application of procedure items served to establish both the validity of the battery of tests and the relative worth of the procedure. The ten schools ranking high in scores on the battery of tests had a higher percentage of occurrences in Type A and Type B materials than the ten schools which made low scores. These procedures which occurred in both the high and low groups were subjected to statistical treatment to determine whether they should be eliminated from what might be termed the "good program". Through this treatment the total number of procedures which contributed

to a good health program was reduced to 169 items. These procedures were divided into the Franzen School Health Procedure Test and the Franzen Teacher Health Procedure Test.

3. An original inquiry sheet was devised to secure data relative to the thoroughness of the follow-up by selecting 150 children with defects through an examination of 521 health cards. The selection was based upon two or more uncorrected defects. A tentative form for the basis of home interviews was submitted to the same sources for criticism as the questionnaire to the teachers. The items on the home inquiry sheet dealt with the economic status of the family, home-school relationships, reasons for non-correction, and facilities found in the home.

On the basis of these criticisms and suggestions, the home inquiry blank was revised and submitted for further criticism and suggestions to Mrs. Elizabeth Andrews, a welfare case worker in the Stowe School District who was employed then by the Hamilton County Welfare Agency. She had been selected and had agreed to make the home contacts due to her familiarity with the district and many of the families. The inquiry sheet was given a preliminary trial on six visits to families which were known to both the case worker and the investigator. After the sixth visit it was felt that a more adequate means of recording the findings was necessary. Therefore, a recording sheet was devised on which the case worker could discreetly record her findings as the interview progressed. The inquiry sheet and

the recording sheet are found in the Appendix B, page 228.

In order to present a summary of the home conditions as they relate to effective follow-up procedures, brief case studies were made to illustrate the three following types of homes: (1) homes with no more than the average income of the families interviewed, yet which show a cooperative attitude; (2) uncooperative homes with a bad environment; (3) homes in which there are tubercular contacts.

The home visits started in March, 1936, and continued through April and the first week in May of the same year. Many problems arose to make the interviews tedious and difficult. Change of address, working hours, and indifference were some of the problems encountered. Some of the original prospects had to be dropped because of transferrals or removal from the city. Others had to be dropped because of insufficient data. As a result, the total number of families interviewed, the data of which could be used for this study, was 146.

4. Interviews with the school dentist, the president of the Stowe School Parent-Teachers Association, and the supervisor of Kroger's Summer Tuberculosis Camp secured information which was concerned with the outside cooperative agencies.

C. Health Instruction: The method of securing data on the health instruction of Stowe School for the purpose of comparison with the standards in the modern program is as follows:

1. An interview with the Director of Health and Physical Education in the city schools relative to the curriculum of health education.

2. Observation of health activities of two classes in each grade.
3. The application of three of the five Franzen Health Education Tests.

The Franzen Health Education Tests consist of the True-False Test, the Matching Test, the Story Test, and Five Rules Test, and the Time Test. The first three tests were used to determine the amount of health awareness possessed by the average sixth grade Stowe School pupil. The Five Rules Test and the Time Test were omitted because they make discriminations between groups and involve sociological factors. The reporting of the results of each test was presented in tabular form to determine the number and percentage of pupils making the correct response on each item of the tests. On the True-False Test the items were classified according to foods, elimination, and other divisions. The nature of the Matching and Story Tests prevented a similar classification. Therefore, a complete picture of the knowledge of pupils in the grade was obtained. The tests are found in Appendix C , page 220.

The True-False Test consists of items covering a wide range of subject matter. There are ninety-two items on the test, some true and some false. A satisfactory correlation between halves of the test indicates that the test is reliable in making discriminations between children on health knowledge. The test primarily tests knowledge but also involves choice. The reliability of the test is .82 for boys and .79 for girls.

The Matching Test is classified by Symonds as a word consequence test in which the pupil has an opportunity to judge the outcomes of

of certain situations and actions (40:270). Wood classifies the test as one of information (18:150). A list of health situations is given and opposite are a number of actions which should be done. The pupil is asked to match the correct action with the appropriate health situation. The correlation of the test for boys is .73 and for girls .72.

The Story Test consists of a number of stories relating incidents concerning health. The pupil is asked to underline everything which is good for health and to cross out everything which is bad for health. Wood considers the test a disguised information and choice test (18:150).

The tests were given during the first week of April, 1936, to the three sections which make up the sixth grade. It was originally planned to use all of the five tests in the study, and all five tests were given and the results compiled with a view of an elaborate statistical treatment of the results. The idea of tabulating the number of correct pupil responses on each item of each test seemed to be more in harmony with the purposes of the study and had more meaning. The reorganization of the results, however, was costly in the number of scores for each test. The original plan was only possible with complete scores on all five tests for each pupil. Of the total 146 pupils enrolled in the grade there were 104 who had complete scores for all five tests. Pupils were dropped because of absences on days the tests were given and for violation of the rules in taking the test. Therefore, the number of pupils reported for each test is 104.

Evaluation of Data.- The evaluation of the results consisted of comparing the data gathered by means of the measuring devices to existing standards in each phase of the modern program.

Recommendations.- The best judgment of the investigator was used in drawing up practical recommendations for the improvement of the program.

Summary

1. The devices used to gather data in this study are the following survey tools: The rating scale, the test, the questionnaire, and the interview.
2. The separate problems involved in the use of these tools exclusive of seeking permission to make the study are:
   (a) Analyzing the literature to determine what is a good modern school health program;
   (b) Setting up a battery of data-gathering devices particularly adapted to the phase of the program they are to measure;
   (c) Evaluating the program of a given situation in terms of the modern school health program;
   (d) Making recommendations for improvement.
3. The above four problems constitute the proposed technique which is described below.
   a. Authority establishes the good modern school health program which consists of three phases: healthful school living, health service, and health instruction.
   b. The devices best adapted to secure data on a selected school health program are as follows:

(a) Healthful School Living: (1) The Strayer-Englehardt Rating Score for Elementary School Buildings, (2) an original questionnaire to the teachers dealing with the classroom experiences of children, (3) interviews with the school principal and psychologist on the organization of the school day for efficiency.

(b) Health Service: (1) The Franzen Teacher Health Procedure Test, (2) The Franzen School Health Procedure Test, (3) An original inquiry sheet which serves as a basis for home interviews, (4) interviews with the school dentist and the president of the Parent-Teachers Association.

(c) Health Instruction: (1) An interview with the Director of Health and Physical Education in the city schools, (2) Observation of health activities of two classes in each of the elementary grades, (3) The application of the Franzen True-False, Matching and Story Tests to determine the amount of health awareness of the average sixth grade pupil.

c. The evaluations and recommendations represent the best thought of the investigator.

CHAPTER III

HEALTHFUL SCHOOL LIVING

In the preceding chapter a technique was proposed for the appraisal of the health program of a large elementary school. The purpose of this chapter is to validate the technique in the environmental phase of the school health program by applying it to Stowe School. The use of the technique in this phase of the program consists of the following steps:

1. Setting up standards for the physical plant, classroom experiences of children, and the organization of the school for efficiency.
2. Using the following survey tools to describe a selected school health program:
   a. The city form of the Strayer-Englehardt Score Card for Elementary schools.
   b. The Strayer-Englehardt Score Card for Elementary Schools which must be used by three experts.
   c. An original questionnaire to the teachers.
   d. Interviews with the principal of the school and the psychologist.
   e. Observation of school and class routine.
3. Evaluating the data secured in terms of the established standards.
4. Making recommendations for improvement.

The Physical Plant

Overview.- The adequacy of the physical plant was determined by obtaining the judgment of three experts who used the Strayer-Englehardt Rating Score Card for Elementary School Buildings. Because of variations in opinions it seemed logical to average the ratings of the judges on each feature of the physical plant. The average ratings are basic in all evaluations and recommendations for improvement. In order to facilitate the work of the judges the investigater made a preliminary survey of the Stowe School building to secure detailed measurements of classrooms, windows, and corriders. The data were gathered through the use of the City Form of the Strayer-Englehardt Rating Score Card for Elementary School Buildings. Each judge was given a copy of the specifications for guidance.

Table III shows the judges' ratings on the main divisions of the Stowe School plant. It also indicates the adequacy of the entire plant when compared to the perfect score for elementary school buildings. The ratings of each individual judge are given in order to show the high degree of consistency among the judges. The first line of total scores are figures which evaluate the plant on the basis of one thousand points. However, the judges in several instances found that certain items on the score card were not necessary for an elementary school; and consequently omitted them. The corrections made for these omissions are found in the second line of total scores in the table. The figure which might be considered as the quantitative expression of the adequacy of the Stowe School plant is 851 or the average of the corrected total scores.

How the judges scores each detailed item under the main divisions is found in the discussions which follow in this section. The topics for discussion are the main divisions listed in Table III.

TABLE III

THE JUDGES' RATINGS ON THE MAIN FEATURES OF THE STOWE SCHOOL PHYSICAL PLANT

Item	Perfect Score	Judges' Individual Ratings			Judges' Average Ratings
		1	2	3	
1. Site	100	57	55	72	61.33
2. Building	160	140	141	140	140.3
3. Service Systems	225	201	192	195	196.00
4. General Classrooms	205	193	196	183	190.66
5. Kindergarten	35	31	33	34	32.66
6. Special Activity Rooms	90	71	56	68	65.00
7. General Service Rooms	125	105	109	110	107.59
8. Administration Rooms	60	40	34	41	38.31
Totals	1000	838	816	843	831.88
Totals Corrected for Omissions		852	846	855	851

Site of the School Plant.- The following discussion shows the application of the technique to the site of the Stowe School Plant:

1. Standards (6:407-410; 39:9-10):

   a. The location of the school should be central in the community it serves, the surroundings providing a maximum of fresh air, sunshine and beauty. There should be freedom from noise, dangers, and undesirable influences.

b. Play space exclusive of lawns and gardens, should provide for a maximum of 100 square feet per child.

c. The site should be located on high land and well drained.

2. Findings: Stowe School serves a district within a half mile radius. The areas which are served by Jackson, Sherman and Dyer Schools overlap the Stowe School area (43:377). The immediate environment provides no evident bad influences except one beer parlor on Barr and Cutter Streets. It lacks, however, a natural setting of trees and shrubbery to make the school attractive. The east wing is build in contact with dwellings which are fire hazzards. The location is high as evidenced by the fact that the basement which is two stories below the level of the street was untouched by the 1937 flood. In the consideration of size, the school occupies one acre of ground with no area for expansion. Sinton Park Playground is under the supervision of the Cincinnati Public Recreation Commission but is used by Stowe School pupils for play purposes. It provides 54,250 square feet of play space for pupils of the junior high and elementary schools. The enrollment of the elementary school is approximately one thousand pupils, and the play space per pupil in the elementary grades alone is approximately fifty-four square feet. Table IV shows the findings of the judges in detail relative to the site of the Stowe School plant.

TABLE IV

JUDGES' RATINGS ON THE SITE OF THE STOWE SCHOOL PLANT

	Perfect Score	Judges' Individual Ratings			Judges' Average Ratings
		1	2	3	
SITE					
Selection	15	10	10	12	10.5
Location					
Determination	10	10	10	10	10
Accessibility	10	8	7	10	8.66
Environment	10	0	5	9	4.66
Topography					
Elevation	5	3	5	5	4.33
Soil and Subsoil	5	3	2	5	4.33
Natural Features	5	0	0	2	.66
Landscaping and Upkeep	5	0	0	1	.33
Provisions for Use					
Size and Form	15	10	8	8	8.66
Roads, approaches and parking	5	5	3	5	4.33
Play courts and playfields	10	8	5	5	6
School Gardens	5	0	0	0	0
Totals	100	57	55	72	61.33

3. Evaluation: The perfect score for the school site according to the score card is 100 points, and the judges' average rating on this division is sixty-one points. The score seems relatively high in view of the lack of a proper natural setting, lack of landscaping, and the fact that only fifty-four square feet of play space per pupil is available for the elementary school. A possible interpretation of the judges' score is the relative practicability of two lines of action: beautifying the school surroundings or moving the site of the school to a better natural setting. The judges rated the accessibility of the school a fraction over eight points out of a possible ten points which means that the present location of the school serves the area in which it is located to a fairly high degree.

4. Recommendation: In the light of the evaluation, the only practical recommendation for the improvement of the Stowe School site is by landscaping and beautifying the school surroungings.

Construction of Physical Plant.- The following discussion is the appraisal of the construction of the Stowe School building.

1. Standards (39:10-16):

a. Except in very congested cities, no elementary school building should be more than two stories above the ground floor and it should be constructed of fire resistive materials. The basement should be used only for heating, storage, and similar purposes.

b. Corriders should provide ready access to stairways and permit rapid circulation to every part of the building.

c. The main corridor should be ten feet wide; others not less than eight feet wide. All corridors should be free of obstructions.

d. All stairways should be fireproof in construction and sufficient to empty the building in three minutes. No storage closets should be placed under the stairways.

e. There should be adequate lighting, both natural and artificial, the switches of the artificial lights being located near the exits.

f. Two pairs of double doors of substantial material should be provided for the main entrances and should swing outward.

2. Findings: Strayer and Englehardt classify school buildings according to the amount of fire resistive material used in their construction (39:11). All the features of a Type A building consist of fire resistive materials. All other types of buildings contain varying degrees of fire resistive materials up to the Type E. building which is entirely frame. Stowe School is an 'I' shaped building, classed between B and C buildings. The stairways, corridors, and walls consist of wood. The corridors afford little natural illumination and while the main corridors measure ten feet in width, other corridors which carry heavy traffic are only six feet in width. Except for two bulletin boards and two fountains, no educational or cultural use has been made of the vast corridors. In the main corridor on the first floor, home room lockers decrease the width of the passage. The stairways are six in number and are located at the opposite ends of the building. There are four stairways at

the east end of the building and their location in relation to the doors causes congestion unless the pupils are supervised. Each stairway is provided with a pair of handrails unrounded at the ends. No treads appear on the stairways except the one leading from the swimming pool. Table V shows the judge's ratings with regard to the construction of the building.

5. Evaluation: Table V shows that the raters gave the building as a whole an average score of 140 points out of a possible 160 points. It thus appears that the building meets the standards to a relatively high degree.

4. Recommendations: Because of the high rating given the building the following minor changes are recommended:

a. That handrails be rounded at corners to order to avoid injury to pupils.

b. That new flooring replace the floors of the present classrooms.

c. That lockers be removed from the main corriders.

d. That stairway landings and corriders be used to a greater cultural value.

Service Systems.- The service systems discussed here are heating and ventilation, fire protection, and water supply. The remaining systems and the degree to which they measure up to standards in the opinion of three judges are found in Table VI.

1. Standards:

a. Heating and ventilation (18:37-39; 39:15-28; 44:38-54):

(a) The heating system should be of adequate capacity and installed to insure a uniform temperature in occupied rooms with a

TABLE V

JUDGES' RATINGS ON THE BUILDING CONSTRUCTION OF STOWE SCHOOL

	Perfect Score	Judges' Individual Ratings			Judges' Average Ratings
		1	2	3	
BUILDING					
Placement					
Position on Site	10	10	10	8	9.33
Orientation	10	10	5	8	7.66
Gross Structure					
Style of Architecture	5	5	5	5	5
Plan Type	10	10	10	8	9.33
Construction Types	10	10	7	7	8
Height	5	5	4	4	4.33
Foundations	10	10	10	10	10
Roof	5	5	5	5	5
Entrances	5	3	5	4	4
Fenestration	5	3	4	4	3.66
Utilization	10	10	8	10	9.66
Esthetic Balance	5	5	5	5	5
Acoustics	5	3	4	5	4
Condition	5	3	5	4	4
Internal Structure					
Corridors	15	10	13	11	11.33
Stairways and Ramps	15	15	12	13	13.33
Color Scheme	10	5	10	9	8
Basement	5	5	4	5	4.66
Roof Space	5	3	5	5	4.33
Totals	160	140	141	140	140.3

variation not exceeding three degrees Fahrenheit when measured three feet from the floor level.

(b) During the coldest months, the most desirable temperatures are from sixty-five degrees to seventy degrees, Fahrenheit, averaging around sixty-eight degrees Fahrenheit.

(c) Automatic temperature regulation should be provided for maintaining the minimum temperature required.

(d) The air should be changed three times an hour, and the manner of obtaining good ventilation is dependent upon the structure and maintenance.

b. Fire Protection (18:37-39; 28:215; 39:15-28; 44:38-54):

(a) Extinguishers should be provided for every 2000 feet of floor space.

(b) There should be fire gongs with connections to all stories and basement. They should be centrally located in the main halls and in rooms where the noise might prevent the gongs from being heard.

(c) All stairways required for emptying the building in three minutes should be located near fire exits. No corridor exit door should be more than one hundred feet from a fire exit.

c. Water Supply (18:37-39; 28:215; 38:15-28; 44:38-54):

(a) There should be one drinking fountain to every fifty to seventy-five pupils.

(b) Wash basins should be adapted to the height of the children and should be in the ratio of one to fifty children.

(c) Elementary schools should be equipped with showers adjacent to the playrooms or gymnasium.

(d) Hot and cold running water, soap, and sanitary towels should be provided.

2. Findings: The heating and ventilation system of Stowe School is classified as the direct mechanical split system which provides both direct radiators located within the rooms to be heated, and a forced air supply for rooms requiring ventilation (39;54-58). Thermostat control regulates the heating and ventilation of each room. The coal storage has a capacity of three hundred tons. Automatic stokers fire the furnace but manual labor is required to lift the coal seven feet to the stoker. When the weather demands, the radiators of a room can furnish sixty per cent of the heat while the ventilation drafts furnist forty per cent.

The fire protection system of any building finds its basis primarily in the resistive materials of its construction. As has been mentioned, the stairways and corridors are of steel and concrete. The doors at each stairway are metal and swing either way. Other protective devices are a hand fire gong with connections on each floor, fire extinguishers located at the alternate ends of the corridors, and exit lights. One item among the visual teaching aids which might be a source of danger in fire protection is an intricate old-fashioned moving picture projector. The source of danger is in the use of inflammable film.

In connection with the water supply, there are eight fountains, thirty-four washbowls and shower baths with hot and cold water attachments for boys and girls. Individual dressing stalls for girls and a large

dressing room for boys are adjacent to the shower rooms. Bath attendants issue soap and towels in the shower rooms, but only two lavatories make any provisions for sanitary towels and there are no provisions for soap.

Table VI shows the judges' ratings in detail on the service systems.

3. Evaluation: The heating and ventilation system seems adequate to furnish the required temperature and change of air as the situation demands.

Table VI shows that the judges scored the fire protection system as relatively efficient. The metal corrider doors offer a high degree of protection to the stairways in case of fire. The hand fire gong, with connections on each floor, provides a sure means of warning in the event the call system is out of order. The arrangement of the doors in the east end of the building, however, in relation to the stairways produce a situation which might cause congestion. Furthermore, one fire extinguisher for an approximately eight thousand foot area on each floor seems inadequate. Finally, the present moving picture projector is old-fashioned and provides a source of danger in the use of the inflammable film and should be replaced with more modern equipment.

Many of the facilities for drinking, washing and bathing meet the requirements in regard to size, number, and working conditions. From a hygienic point of view, however, some of the fountains are inadequate because they are exposed and are of the bulb type which allows the lips to touch the metal. The number of wash bowls seems

TABLE VI

JUDGES' RATINGS ON THE SERVICE SYSTEMS OF STOWE SCHOOL

	Perfect Score	Judges' Individual Ratings			Judges' Average Ratings
		1	2	3	
SERVICE SYSTEMS					
Heating and Ventilating					
Kind	15	15	15	15	15
Installation	10	10	9	7	8.66
Air Supply	5	5	4	5	4.66
Fans and Meters	5	5	5	5	5
Distribution	5	5	5	5	5
Temperature Control	5	5	5	5	5
Special Provisions	5	5	4	5	4.66
Fire Protection System					
Fire Resistance	15	13	11	12	12
Exits and Fire Escapes	5	3	4	5	4
Apparatus	3	2	2	2	2
Electric Wiring	2	2	2	2	2
Fire Doors and Partitions	3	3	3	2	2.66
Exit Lights and Signs	2	2	2	2	2
Cleaning System					
Kind	5	5	5	5	5
Installation	5	5	5	5	5
Efficiency	5	5	5	5	5
Artificial Lighting System					
Electric Lighting	5	3	5	5	4.33
Light Sources and Intensities	3	1	2	2	1.66
Switches and Switchboards	3	3	3	3	3
Outlets and Adjustments	3	3	3	2	2.66
Method of Illumination	3	1	2	2	1.66
Maintenance and Inspection	3	2	3	3	2.66
Electric Service System					
Clocks	3	3	3	3	3
Telephones	2	2	2	2	2
Fire Alarm System	2	2	2	2	2
Call System	2	0	2	2	1.33
Electric Power Supply	1	1	0	1	.66

TABLE VI (Continued)

	Perfect Score	Judges' Individual Ratings			Judges' Average Ratings
		1	2	3	
Electrical Teaching Aids					
Audio-Visual Equipment	5	5	4	4	4.33
Radio Equipment	5	5	3	2	2.33
Water Supply System					
Drinking Fountains	5	5	4	4	4.33
Lavatories	5	5	3	4	4
Sinks	5	5	5	5	5
Bathing Facilities	5	5	5	4	4.66
Toilet System					
Distribution and Arrangement	5	2	4	4	3.33
Fixtures	5	2	4	4	3.33
Adequacy	5	5	5	5	5
Seclusion	5	3	4	4	3.66
Sanitation	5	5	4	4	4.33
Supplies	5	5	3	4	4
Mechanical Service Systems	3	3	0	3	2
Locker Service					
Home Lockers	5	5	4	5	4.66
Gymnasium Lockers	5	4	5	4	4.33
Lockers for Special Classrooms	3	3	3	3	3
For Teachers and Staff Workers	2	2	2	2	2
Laundry Service	2	2	2	2	2
Storage Service					
Custodial Storerooms	1	1	1	1	1
School Supply Storage	1	1	1	$\frac{1}{2}$	.83
Educational Equipment Storage	1	1	1	$\frac{1}{2}$	.83
Book Storage	1	1	1	1	1
Storage for Instructional Rooms	2	1	2	2	1.66

TABLE VI (Continued)

	Perfect Score	Judges' Individual Ratings			Judges' Average Ratings
		1	2	3	
Storage Service (Con't.)					
Storage Aural-Visual Materials	1	0	1	1	.66
Gymnasium Storage	1	1	1	1	1
Auditorium Storage	2	1	0	1	.66
Receiving and Shipping Room	1			0	
Fuel Storage	2	2	2	1	1.66
Custodian's Work Shop	1	1	1	1	1
Storage for Non-Teaching Staff	1	1	1	1	1
Bicycle Storage	2				
Parking Space	2	2	2	2	2
Out-of-Doors Service Storage	1	1	1	1	1
Totals	225	201	192	195	196

insufficient, but the staggering of recess periods, lunch periods, and dismissal prevent congestion. The lack of a continuous supply of soap and towels in the lavatories is a condition which should be corrected.

4. Recommendations: In the light of the high rating given by the judges on this feature, the following miner recommendations are made:

a. That in the event that it becomes necessary to replace the present furnaces in Stowe School, consideration be given to a type which will reduce the amount of manual labor.

b. That the doorways of the east end of the corriders be widened in such a way that they will be in a direct line with the stairways.

c. That more fire extinguishers be placed on each floor.

d. That a more modern type of moving picture projector be installed.

e. That the bulb type of fountain be replaced by a more sanitary type.

f. That some system be devised by which a continuous supply of soap and towels be present at all times in the lavatories.

Classrooms.- The following discussion is the evaluation of the classrooms.

1. Standards (28:214; 39:96-118; 44:38-54):

a. Rooms should be of easy access to exits, stairways, drinking fountains, toilets, and special rooms.

b. A minimum of fifteen square feet of floor space and two hundred cubic feet of air space should be provided for each child.

c. The glass area in a battery of windows should equal twenty per cent of the floor area unless there are obstructions.

d. Semi-direct or indirect artificial light should be provided in maintaining a standard of ten candle power on each desk without glare.

e. Plain glass and adjustable shades should be used at all windows.

f. The walls should be in flat dull colors without varnish.

g. The seats should be individual and adjustable.

h. The blackboards should be equipped with wire covered chalk trays and placed opposite the windows at such a height that they can be reached by every pupil.

2. Findings: To understand clearly the classroom situation in the school a brief description of the classroom organization is necessary. In the kindergarten children attend school a half day. There were twenty-seven pupils in the morning session and fifty-four in the afternoon session (1935-36). Starting with the first grade through the fourth grade all subject matter is taught by one teacher in each division of each grade. The work through the fifth and sixth grades is departmentalized, but each teacher has home room responsibilities. All of the grades are divided into groups according to the ability of the pupils. The total class membership of the school is approximately 950 pupils and it has proved difficult to house that number of pupils in the part of the building assigned to the elementary grades. Therefore, certain sections of various grades are housed in portable structures on the Sinton Park Playground.

These portable classrooms are not considered in the study except as they give evidence of the need of more space. The fact that they are temporary structures does not affect the rating of the permanent building.

Data relative to the area and cubical space per child are found in Table VII. Pupil enrollment here means the pupil membership of the class, a distinction not to be confused with the enrollment taken at the beginning of the year. The literature is vague as to just what should be the capacity at a rate of fifteen square feet per pupil. Using a standard of forty pupils to a classroom, figures are derived which indicate the area and cubical space per pupil.

Certain other features of the classroom deserve mention. The condition of the floors has been discussed elsewhere in this section. The area of window space in relation to floor space meets standard requirements. The ratio is one to five. The mullions, however, in the front of the rooms place the windows too close to the blackboards. The shades in many instances are of the single roller type and are worn and dirty. No classroom door has a transom. Some of the blackboards are too high or too low according to the grade. One room has adjustable seats. Artificial illumination seems sufficient in that there are nine globes to a room. The lighting,nevertheless, is almost direct, and in some instances the electric light shades are broken. Very few rooms have electrical outlets which permit the use of certain visual aids in teaching. Table VIII gives the ratings of the judges on all features of the classrooms.

TABLE VII

SIGNIFICANT DATA ON THE AREA AND CUBICAL SPACE PER CHILD IN THE GENERAL CLASSROOMS OF STOWE SCHOOL

Room	Grade	Pupil Capacity	Pupil Enrollment	Area sq. ft.	Area per child of pupil capacity	Area per child of enrollment	Area per child with 40 in class	Total cubic content cu. ft.	Cu. ft. per child of pupil capacity	Cu. ft. per child of enrollment	Cu. ft. per child with 40 in class
101	2	49	38	737	15	19	18	9218	187	242	230
102	1	49	35	737	15	21	18	9218	187	263	230
103	2	49	39	737	15	18	18	9218	187	236	230
202	1	49	40	737	15	18	18	9218	187	230	230
203	2	49	38	737	15	19	18	9218	187	242	230
204	2	49	35	737	15	21	18	9218	187	263	230
205	3	49	52	737	15	14	18	9218	187	177	230
206	1	49	39	737	15	18	18	9218	187	236	230
207	6	49	38	737	15	19	18	9218	187	242	230
208	4	49	44	737	15	16	18	9218	187	209	230
209	5	49	43	737	15	17	18	9218	187	214	230
210	5	49	46	737	15	16	18	9218	187	200	230
211	6	49	27	737	15	27	18	9218	187	341	230
212	6	49	40	737	15	16	18	9218	187	230	230
303	6	49	40	737	15	18	18	9218	187	230	230

TABLE VIII

JUDGES' RATINGS ON THE GENERAL CLASSROOMS OF STOWE SCHOOL

	Perfect Score	Judges' Individual Ratings			Judges' Average Ratings
		1	2	3	
GENERAL CLASSROOMS					
Location and Connection	35	33	35	33	33.66
Construction and Finish					
Size and Utilization	25	25	25	25	25
Sufficiency	10	10	10	8	9.33
Floors	10	10	7	5	7.33
Walls and Ceiling	10	10	10	9	9.66
Doors	5	5	4	5	4.66
Built-in Equipment	10	10	9	9	9.33
Chalkboards	5	5	4	5	4.66
Bulletin Boards	5	5	5	3	4.33
Color Scheme	10	8	10	10	9.33
Illumination					
Glass Area	15	15	14	15	14.66
Windows	15	12	12	11	11.66
Shades and Curtains	10	10	8	8	8.66
Movable Equipment					
Seats and Desks	20	20	16	18	18.00
Teachers' Desks	5	5	5	5	5
Other Equipment	15	10	13	14	12.33
Totals	205	193	196	183	190.66

3. Evaluation: The high rating of the classrooms by the judges is indicative of the degree they meet standards in the opinions of three experts. Table VII supports this rating in regard to size, illumination and utilization. Only one classroom fails to furnish the minimum requirements in area per child of enrollment. The lack of proper spacing of the mullions is a defect in construction and apparently nothing can be done about it. Transoms, too, present a problem which can only be corrected by alterations.

4. Recommendations: It is, therefore, recommended that classroom defects in such features as floors, blackboard, window shades, desks, and electrical fixtures be corrected.

Kindergarten.- The following discussion is the application of the technique to the Stowe School Kindergarten.

1. Standards (39:114-118):

   a. The kindergarten should be located on the ground floor and should open directly upon the kindergarten playground.

   b. The dimensions of the main room of the kindergarten should be twenty-three feet by forty feet.

   c. The kindergarten should be provided with its own classroom and toilets.

   d. The glass area of the room should be twenty per cent of the floor space.

   e. The window sills should be low so that children are able to look out of the window.

   f. Tables and chairs should be used. The tables should seat four pupils and they should be at least of three heights.

g. Other equipment should include slides, rope ladders, jungle-gym, rocking horse, sand table, building blocks, painting easels, and other children's toys.

2. Findings: The dimensions of the Stowe School Kindergarten are sixty-four feet, eight inches, by twenty-five feet. The area of the room is 1620 square feet and the glass area of the room is 558 square feet, thus making the ratio approximately one to five. Leading off from the main room are cloakroom, toilet, and work room. The tables permit four children to sit comfortably. The storage closet revealed a wide variety of children's toys. The room does not provide a separate entrance. Table IX shows the judges ratings on the Kindergarten.

TABLE IX

JUDGES' RATINGS ON THE KINDERGARTEN OF STOWE SCHOOL

	Perfect Score	Judges' Individual Ratings			Judges' Average Ratings
		1	2	3	
KINDERGARTEN					
Location and Connection	5	3	3	4	3.33
Size and Shape	10	9	10	10	9.33
Construction and Finish	5	5	5	5	5.00
Cloakroom and Toilets	5	5	5	5	5.00
Illumination	5	5	5	5	5.00
Equipment and Storage	5	5	5	5	5.00
Totals	35	31	33	34	32.66

3. Evaluation: Out of a possible thirty-five points, the judges awarded the kindergarten the average score of thirty-three points. The room meets the standard requirements in all matters except a door leading to the outside of the building. The presence, however, of such a door would not serve the purpose required by the standards, for there is no separate playground for kindergarten children.

4. Recommendations: In the light of the relative value of a door leading from the kindergarten, there are no recommendations.

Special Activity Rooms.- The following discussion is the application of the technique to the special activity rooms.

1. Standards (39:120-121):

a. Home Economics rooms:

(a) Cooking room:

(1) Home Economics work for fourth, fifth, and sixth grade girls should be provided for in a room twenty-three feet by forty feet.

(2) The storage pantry should be carefully planned and the necessary precautions taken for sanitation.

(b) Sewing Room (39:120-121):

(1) In schools where a sewing room is planned apart, the size of the room should approximate the regular classroom.

(2) Provisions should be made for display cabinets, ironing boards, full-length mirrors, and supply cabinets.

b. Industrial Arts Room (39:122):

(a) The dimensions of the industrial arts room should be twenty-three feet by forty feet.

(b) The room should not be located in the basement.

(c) The equipment should include individual lockers for tools, wall cabinets, and exhibit spaces.

c. Library (39:123-124):

(a) The library should be located on the second floor, but when it is used for public purposes, it should be located on the first floor near the entrance.

(b) A school of one thousand pupils should have a library with a seating capacity for sixty persons, and a book capacity of three thousand volumes.

(c) The floor covering should be of cork or linoleum.

(d) All artificial lights should be from ceiling fixtures, and there should be no provision for table lights.

(e) The window area should be twenty per cent of the floor area.

(f) Tables should be provided so that six pupils may be seated at each table.

d. Science and Nature Study Room (39:126-127):

(a) The minimum essentials for a science room are a standard classroom, library tables, demonstration table for teacher, cabinets with adjustable shelving and cupboard spaces below, an aquarium, terrarium, and running water.

e. Mental Defective Room (39:130-131):

(a) The room should be one and one-half times larger than the ordinary classroom.

(b) The room should be located in a part of the building where a limited segregation is possible.

f. The Eye Conservation Room (39:139):

(a) The size of the room should be approximately the size of a regular classroom.

(b) Special attention should be given the artificial lighting so that there will be wide diffusion and distribution without glare.

2. Findings: Home Economics classes of the school are largely planned for the junior high school, but during the second semester, classes are conducted for the fifth and sixth grade pupils of the elementary school. The class activities are carried on in two separate rooms under the guidance of different teachers.

The cooking room dimensions are thirty-three and one-half feet by thirty-one and one-half feet. There are twelve stations, each of which consists of drawers, gas range, and portable ovens. Two sinks are arranged at convenient points in the room. While most of the utensils are stored in the drawers of the tables, there are shelves on the south wall for additional storage space.

A regular classroom serves the purpose of a sewing room. Appropriate tables with drawers are installed for working purposes. A small room off from the main room contains three full length mirrors and an ironing board. In the main room are cupboards for storage and display cabinets. There are a number of foot-operated sewing machines and one electric sewing machine. There are many outlets for electrical attachments. The room does not have as many artificial lights as the general classrooms, but the intensity is greater and large frosted shades diffuse the light. The room is

well planned with the possible exception of the height of the tables which seem too high for the average fifth and sixth grade child.

The industrial arts room is located in the basement. The dimensions are forty feet by thirty-eight feet. There are twenty-six stations with desks of varying sizes. The rear of the room is used for storing lumber, and a storeroom, fifteen feet by eight feet, leads off from the south side of the room.

The library is located at the west end of the building and it measures forty-five and one-half feet by twenty-four feet. It is a branch of the main library and has access to its collection of books. The library is used as much by the outside public as by the children of the school. All tables and chairs are constructed for use by adults.

The science and nature study room is one of the regular classrooms in which elementary science is taught. There are no tables with cupboards below, no running water, nor an aquarium. The desks are those of the general classroom type and are of one size.

The room for mental defectives is located on a sub-floor above the dressing room of the auditorium. The slanting of the room sets the character of the room which resembles an attic. The room receives none of the benefits of the ventilating system for there are no vents. The equipment consists of library tables, chairs, teacher's desk, and tools.

The eye conservation room is a general classroom converted for

special activity purposes, and it contains the same floor area, cubical space, and illumination area. The artificial lights are of greater intensity than the lights of the general classrooms and are covered with frosted shades. The equipment consists of adjustable desks, typewriters with oversized type, textbooks with oversized printing, and other equipment which is used to aid pupils with vision defects. The findings of the judges are reported in Table X.

TABLE X

JUDGES' RATINGS ON THE SPECIAL ACTIVITY ROOMS OF STOWE SCHOOL

	Perfect Score	Judges' Individual Ratings			Judges' Average Ratings
		1	2	3	
SPECIAL ACTIVITY ROOMS					
Art Room	10				
Home Economics Room	10	8	9	10	9.00
Industrial Arts Room	10	10	8	10	9.33
Library	30	30	25	25	26.66
Music Room	10	5		8	
Science and Nature Study Room	10	10	8	7	8.33
Other Rooms (Mental Defectives)	10	9	6	8	7.33
Totals	90	71	56	68	65.00

3. Evaluation: From the evidence, it would seem that the cooking room meets all of the requirements necessary for fifth and sixth grade pupils. The sewing room is well equipped and serves the purpose of the elementary grades with the exception of the height of the tables. In an interview with the principal, it was learned that all tables had been raised to meet the requirements of the greatest number of pupils. In the light of the actual experience of the children with the tables there are no recommendations.

The very existence of the library depends upon how well it serves not only the Stowe School children but the community as well. For it to occupy a centralized location in the building proper would mean added supervision of the building out of school hours. In its present location there is no egress from the library to the building proper. Suitable tables and chairs, however, would add to the efficiency of the room.

All three judges scored the industrial arts room highly. The fact that it was located in the basement prevented it from receiving a perfect score. In view of the fact that there is no suitable place to move the room, and in view of the fact that it is serving its purpose rather efficiently where it is located, there are no recommendations.

The science room seems to be one in name only. There is no equipment in the room which the general classroom does not have. Powers and Manzer say (30:440-441): "The science room should provide those experiences in science which cannot conveniently or adequately

be provided in ordinary classrooms." It should be the aim of the administration to develop gradually this room to meet all requirements.

The room for mental defectives has only size and partial segregation to recommend it. The room is too much like an attic. Pupils of this type are in need of an inspiring environment.

The room for eye conservation is commendable from every aspect. The location, size, lighting, and equipment meet all requirements.

4. Recommendations: The study proposes the following recommendations:
   a. That tables and chairs suitable for smaller children be placed in the library.
   b. That through a gradual process the administration equip the science and nature study room to meet the requirements.
   c. That a more suitable room be selected for the mental defectives.

General Service Rooms.- The application of the technique follows:

1. Standards: No attempt is made here to present all of the standards of the general service rooms. The presence or absence of some feature, and, if present, how it measures up to standard requirements in the opinion of three judges, are found in Table XI.
   a. Auditorium (39:133-141):
      (a) The auditorium should be placed on the ground floor within easy reach of administrative and instructional rooms.
      (b) The auditorium of an elementary school should rarely have over a 600 seating capacity.
      (c) In general equipment the first fifty to a hundred seats should be of smaller sizes to permit use by younger children.

b. Gymnasium (39:141-147):

(a) Gymnasiums are better located in a wing of the building where sunlight and ventilation may be obtained from not less than two sides.

(b) The dimensions should not be less than sixty by forty feet.

(c) Equipment should be decided by the character of the program. Exact standards do not seem feasible.

(d) If seating is desirable, a flexible folding arrangement should be made at the end of the room.

c. Playrooms (39:147-148):

(a) In large elementary schools playrooms a little larger than the general classrooms may be used to supplement the gymnasium.

(b) When playrooms are provided within the building, they should be planned according to gymnasium standards.

d. Swimming Pool (39:148):

(a) Whenever a swimming pool is incorperated in an elementary school, it should be planned for children of elementary ages.

(b) The depth of the tank should range from one to five feet.

(c) A disinfectant foot bath should be provided.

e. The Lunch Room (30:149-153):

(a) The cafeteria should not be located in the basement, but preferably on the ground floor.

(b) Nine square feet of space per pupil exclusive of serving space should be the minimum in planning a lunch room.

(c) Natural illumination should be in the same ratio to the floor area as general classrooms.

(d) Drinking fountains should be placed at convenient points in the room.

(e) Among the various serving equipment a steam counter should be of prime importance.

2. Findings: The auditorium of Stowe School is located in the west wing of the building with a main lobby opening on to Seventh Street, and two entrances on Cutter Street. Other entrances are from the library and the gymnasium. To reach the auditorium from the classrooms and administrative offices requires passage through the gymnasium. A large folding door separates the auditorium and gymnasium, thus increasing the seating capacity of the auditorium when the occasion demands. Under normal conditions, the room seats 500 persons. All seats are of the same size. The auditorium also serves as a public meeting place for the community.

As has been mentioned, the gymnasium serves as added seating space for the auditorium. For play purposes, it serves the junior high school, certain elementary grades, and the Public Recreation Commission. After the fourth grade the work of Stowe School becomes departmentalized and pupils attend gymnasium classes rather than have recess periods. The girls use the gymnasium and the boys use the playground and the playground shelter house. The size of the gymnasium is fifty-one feet by thirty-seven feet seven inches. It is inconveniently located in relation to the shower rooms, for it is on the first floor and the showers are in the basement.

Play activities from the first grade through the fourth grade are conducted on Barr Street if the weather permits and in two large

play rooms in the basement during inclement weather. The girls play room measures fifty feet by thirty-six and one-half feet while the boys' room is fifty-three feet and one-half feet by thirty-six and one-half feet. Neither room is constructed according to gymnasium specifications. Concrete building supports with sharp corners are located in the middle of each room.

The swimming pool is located under the auditorium and its dimensions are sixty feet by twenty feet. Its depth ranges from one to seven and one-half feet. Chlorination and filtration apparatus keep a continual flow of fresh water running into the pool. There are no foot baths.

The lunch room has the dimensions of fifty feet by twenty-three feet. It is located in the east wing of the building over the industrial arts rooms. The natural illumination of the room provides for the required ratio of one to five in relation to the floor space. The area is 1150 square feet with a seating capacity of 127. Actually there are 126 seats in the room. The equipment of the lunch room seems rather complete with the possible exception of a steam table. Table XI shows the judges' findings as they relate to special activity rooms.

TABLE XI

JUDGES' RATINGS ON THE GENERAL SERVICE ROOMS OF STOWE SCHOOL

	Perfect Score	Judges' Individual Ratings			Judges' Average Ratings
		1	2	3	
GENERAL SERVICE ROOMS					
Auditorium or Assembly Room					
Purpose	5	5	5	5	5.00
Orientation and Location	5	5	4	5	4.66
Size	10	8	10	10	9.33
Construction and Finish	5	5	5	4	4.66
Stage	5	5	4	4	4.33
Stage Dressing Rooms	3	2	3	1	2.00
Property Room	2	1	0	1	.66
Artificial Lighting	4	4	4	3	3.66
Heating and Ventilation	4	4	4	4	4.00
General Equipment	4	4	3	3	3.33
Audio-Visual Equipment	3	3	2	2	2.33
Gymnasium					
Location	5	5	4	5	4.66
Size	10	10	10	10	10.00
Construction and Finish	5	3	5	4	4.33
Gymnasium Service Rooms	3	3	3	3	3.00
Seating Arrangements	2	0	0	2	.66
Playrooms or Shelters	10	10	10	9	9.66
Swimming Pool	10	8	9	8	8.33
Cafeteria or Lunch Room					
Location	5	3	3	4	3.33
Size	10	8	10	9	9.00
Construction and Finish	5	4	4	5	4.33
Equipment	3	2	2	2	2.00
Kitchen	2	3	5	5	4.33
Faculty Lunch Room	2	0	0	0	0.00
Totals	125	105	109	110	107.59

5. Evaluation: The location of the auditorium is not all that is to be desired due to the fact that it is necessary for pupils to pass through the gymnasium to get to the room. On the other hand, the auditorium is the only place in the West End District where general public meetings can be held. In its present location it is of definite advantage to the administration because there is no problem of supervising the rest of the building when a public meeting is held. In the light of this double purpose, the room meets the requirements except in the matter of smaller seats for younger children.

The gymnasium from the evidence is well equipped. It is a little short of the standards in size and lacks seats. From the point of view of the elementary school and considering the added play space in the basement and in Sinton Park, it seems adequate. The room is high enough for pupils to play basketball and volley ball. While seats are highly desirable, the size and location of the gymnasium do not permit any practical recommendations to be made.

The play rooms in the basement have not been planned according to gymnasium specificiation. Nevertheless, they serve a definite purpose in relieving the gymnasium. The construction beams in the center of the rooms should be rounded at the corners as a means of protection.

The combined use of the swimming pool by the junior high and the elementary school pupils is a fact which must be considered

when judging whether the pool is too deep for use by elementary pupils. Furthermore, it seems that a restraining line at the five feet depth would serve the purpose of setting limits for elementary pupils. For sanitary reasons foot baths should be provided.

The construction, use and equipment of the lunch room seem generally to meet the standard specifications. The acoustics and the lack of a steam table are factors which decrease the efficiency of the room. During the survey of the building the principal ventured the information that a steam table was to be installed in the near future.

4. Recommendations: The recommendations for the improvement of the general service rooms are as follows:

a. That the first two rows of chairs in the auditorium be replaced by smaller seats for younger children.

b. That the construction beams in the center of the play rooms be rounded.

c. That foot baths be placed in the swimming pool.

d. That as a matter of record for this study, steam tables be installed in the lunch room.

Administration Rooms.- The technique applied is as follows:

1. Standards (39:154-155):

a. Office of the principal and assistant principal.

(a) The principal's private office should be in a suite of rooms located on the first floor.

(b) The size of the room should be 250 square feet.

(c) The assistant principal's office should be located so as to offer accessibility to the principal's office.

(d) Large elementary schools should provide a conference room. Such a room is necessary for conferences between special teachers and home room teachers.

b. Teachers' Rooms (39:154-155):

(a) Provisions should be made for a women's rest room.

(b) The equipment may consist of chairs, couch, magazine rack, a table and a rug.

(c) When men are members of the staff, retiring rooms should be provided for them.

c. Health Service Room (39:159-161):

(a) When a school is to have the services of a physician, either whole or part time, a special room should be provided.

(b) The elementary school should provide a nurse's room.

2. Findings: The principal's office is located on the first floor in close proximity to the main entrance. The room is well equipped, but the only privacy offered is a counter of files across the room. The assistant principal's office is located next to the principal's office and has a reception room. In the original plans this office was planned as the nurse's quarters. There is no conference room.

The women's rest room is located on the second floor and contains toilets, wash bowl, chairs, tables, and couch. The furniture appears well worn. The men's rest room has been converted into an extra sewing room.

The nurse's room is located in the basement next to the girl's shower room. There are no provisions for a physicians' consultation room, no provisions for disrobing except a hospital screen, and no provisions for a waiting room. The First Aid kit has been removed due to a recent city ordinance which states that all injuries occurring on city property must be treated by a district physician. Table XII shows the judges' ratings on the administration rooms.

TABLE XII

JUDGES' RATINGS ON THE ADMINISTRATION ROOMS OF THE STOWE SCHOOL

	Perfect Score	Judges' Individual Ratings			Judges' Average Ratings
		1	2	3	
ADMINISTRATION ROOMS					
Administration Offices					
Principal's Private Office	5	2	0	1	1.00
Assistant Principal's Office	5	5	5	5	5.00
General Office	5	5	5	4	4.66
Reception Room	2	2	2	2	2.00
Attendance Office	3	2		3	1.66
Conference Room	2		0		0.00
Other Administrative Offices	3	3		3	2.00
Teachers' Rooms					
Women's Rest Rooms	7	6	6	6	6.00
Men's Retiring Rooms	3	0	0	0	0.00
Health Service Rooms					
Medical Clinic	5	0	3	3	2.00
Nurse's Room	4	4	4	4	4.00
Dental Clinic	4				
Other Health Service Rooms	2	2	2	0	1.33
Custodial Service Rooms					
Head Custodian's Office	3	2		3	1.66
Engineer's Room	3	3	3	3	3.00
Janitors	2	2	2	2	2.00
Janitresses	2	2	2	2	2.00
Totals	60	40	34	41	38.31

3. Evaluation: The fact that the assistant principal's office and the principal's office adjoin and the additional fact that the assistant principal's office has a reception room offer an opportunity to provide a reception room for the principal. A door out from the reception room into the principal's office would provide privacy and a reception room for both offices. The most pressing need of the women's rest room is that of new furnishings. In the case of the men's rest room, it should be restored. There are enough men on the Stowe School staff to make such a room a necessity.

The constant demands upon the health service department make compulsory a private consultation room. The room could be constructed by partitioning a section of the rear of the adjoining girls' shower room and cutting a door from the present health service room.

4. Recommendations: It is hereby recommended that:

1. A door be cut from the principal's office to the reception room of the assistant principal, thus providing privacy for both.
2. That new furniture replace the old furnishings of the women's rest room.
3. That the men's rest room be restored.
4. That a consultation room be provided the health service room by partitioning a section of the rear of the girls' shower room and cutting a connecting door to the health service room.
5. That a First Aid kit be restored to the health service department.

The Classroom Experience

In this section, the study will attempt to validate the proposed technique by applying it to the classroom experiences of pupils of the Stowe School.

The determination as to whether the conditions of the classroom contribute to the emotional health of the child involves many factors. No attempt has been made to evaluate all of the factors which contribute to the mental health of the Stowe School pupil, but those which are discussed in this section represent a sampling sufficient to present an accurate picture of the real situation. The factors discussed are: (1) pupil behavior problems, (2) pupil placement, (3) methods of instruction.

The methods of collecting the data are by means of a questionnaire sent to the teachers and through an interview with the psychologist. Questionnaires were sent to the twenty-seven teachers of the elementary grades and the returns were twelve in number of forty-four per cent. In order to obtain more complete returns, the remaining teachers were interviewed and the questionnaire filled out in the presence of the investigator. The number was increased to twenty and the percentage increased to seventy-four. This number included all of the home room teachers. The remaining teachers were engaged in special activities, and it was found that the purpose of the questionnaire was not suited to their type of work. From this group was obtained a description as to the scope and purpose of the special activities in which they were engaged. Data on other aspects of behavior problems were secured through an interview with the school psychologist.

Treatment of Behavior Problems.- The technique is applied here to appraise the treatment of behavior problems in Stowe School.

1. Standards (25:144-47; 28:208; 35:71-269; 44:80; 50:161-163).

All factors which contribute to the emotional health of pupils of necessity contribute to the discipline of the school. Modern educational philosophy conceives discipline as development; a development which aims at voluntary conformity to social standards instead of enforced obedience. Furthermore, discipline is viewed from two aspects. The first is one of socialization, a positive side of training children to work harmoniously in groups. The second is the mental hygiene aspect which aims at an inner adjustment and aids children in substituting socially valuable behavior for their own conflicting desires (44:73). The treatment of behavior problems is discipline from a mental hygiene point of view, and the standards listed below represent broad principles to be followed in that treatment.

a. Discipline conceived as obedience, docility and quietness is out of harmony with accepted principles of mental hygiene.

b. Unsocial behavior in the classroom is usually symptomatic and the teacher should investigate to discover the real cause.

c. Children are unusually sensitive to the neurotic tendencies of parents, hence home visits are indispensable in studying children's behavior problems.

d. The shy, timid child may be overlooked because he presents no problems to the teacher. His is one of the serious problems

and demands tact in handling.

e. Teachers in dealing with behavior problems should force themselves to react to the child as an individual and not to the undesirable behavior with which the child is identified.

f. Punishment, to be legitimate, can only be administered when it is chosen with a view of the causes of the behavior problem in mind.

g. The classroom teacher should be helped to recognize personality problems in their early stages and refer them to the school mental hygiene staff.

h. Where it is possible, the school should provide for the services of a specialist in mental hygiene whose function should be (1) testing and record keeping, (2) counselling and guidance, (3) supervision of teachers in the interest of better mental hygiene in classroom activity, and (4) home contacts.

2. Findings: In order to obtain data on the nature of behavior problems in Stowe School the teachers in the elementary grades were asked to check on the questionnaire those problems which had arisen in their classrooms. The results are shown in Table XIII. The questionnaire is found in Appendix A , page 196 . Shyness means continued withdrawal from activity or it may mean timidity. Cruelty means "bullying" smaller children, pinching or cuffing without reason. To determine how the teachers felt about the seriousness of the problems, each was asked to rate the problems in the order of their seriousness.

The results appear in Table XIV. Table XV shows the opinion of the teachers with regard to the effectiveness of their methods of punishment.

Punishment is a definite part of the treatment of behavior problems as they occur in the classroom. Teachers admitted that corporal punishment was the most effective means for certain offenses. However, they felt it should be the extreme penalty when every other measure had failed. The school laws of Cincinnati prohibit corporal punishment unless administered in the presence of a witness. In Stowe School most of the cases came under the supervision of the assistant principal. The offenses for which teachers punish at Stowe School are found in Table XVI. By punishment is meant deprivation of privileges, standing in the cloakroom, extra work, and remaining after school. The data on punishment further revealed that fifty per cent of the teachers had sixteen cases of corporal punishment during the week prior to the investigation. Fifteen per cent reported corporal punishment once for the worst offender during the month, while one teacher reported corporal punishment ten times for the worst offender during the same period.

TABLE XIII

PROBLEMS OF CHILD BEHAVIOR AS REPORTED BY TWENTY TEACHERS IN STOWE ELEMENTARY SCHOOL

Problem	.No. of teachers listing problems	Total number of cases
Smoking	3	15
Depression, unhappiness	10	12
Talking	20	240
Resentful attitude	8	25
Profanity	5	18
Lying	18	70
Shyness	16	18
Cruelty	2	2
Disorderliness	14	126
Sulking	8	20
Stealing	15	25
Obscene notes, pictures, etc	12	30
Temper tantrums	2	12
Impudence	7	15
Disobedience	15	33
Other problems: self abuse	3	7

TABLE XIV

RATINGS OF TWENTY TEACHERS ON THE SERIOUSNESS OF BEHAVIOR PROBLEMS

Problems	Number of Teachers Rating Problems and Variations in Rating			
	Most Serious	Serious	Fairly Serious	Relatively Unimportant
Unsocial attitude	3	10	7	
Smoking		15	5	
Depression, unhappiness	5	10	3	2
Talking	5	6		9
Resentful attitude	5	5	2	5
Profanity		15	3	2
Lying	6	3	4	7
Disorderliness	6	3	6	5
Stealing	4		8	8
Temper tantrums	5	2	7	6
Obscene notes, pictures		1	3	16
Impudence	2		15	3
Cruelty	2	4	10	2

TABLE XV

RATINGS OF TWENTY TEACHERS ON METHODS OF DEALING WITH BEHAVIOR PROBLEMS

	Number of Teachers Rating Method and Variation in Rating				
	Most Effective	Effective	Fairly Effective	Doubtful Value	Disapprove
Class Projects	3	9	8	0	0
Remaining after School	0	3	6	3	8
Standing in Cloakroom	0	3	0	0	17
More School Work	2	3	15	0	0
Leadership Responsibilities	8	6	3	3	0
Whipping	4	6	6	4	0
Denying Privilege of being Excused	0	0	0	0	20
Home visits	4	8	4	4	0
Standing in Corner	0	2	0	0	18
Placing Shy Child in Care of Assertive Child	3	6	7	4	0
Sarcastic Remarks	0	0	0	0	100
Personal Guidance	2	8	8	2	0
Sending to Office	3	4	5	8	0
Extensive Activity Program	8	2	6	4	0
Refer to Psychologist	8	2	6	4	0
Denying Recreation	12	0	4	4	0

TABLE XVI

OFFENSES FOR WHICH THE TWENTY TEACHERS PUNISH

Offense	Number who punish	Number who do not punish
Sulking, refusing to join in..	0	20
Smoking	0	20
Talking	15	5
Resentful attitude	4	16
Profanity	3	17
Lying	16	4
Fighting	6	14
Disorderliness	0	20
Stealing	6	14
Temper tantrums	9	11
Obscene notes, pictures	3	17
Impertinence	4	16
Disobedience	12	9

Investigation along the lines of probable causes of behavior problems, the teacher's willingness to investigate causes, and the teacher's philosophy relative to the "naturally bad" children produced facts pertinent to this study. Seventy per cent reported ninety cases in which behavior problems arose from the presence of over-aged, over-grown or retarded pupils. Forty per cent reported parents as contributing to the child's problems of behavior. Eighty-four per cent reported making home visits, and two teachers reported visits to the homes of each child in the class. In response to the query as to the presence of "naturally bad" children in the class, fifty per cent reported none, thirty-five per cent reported eight cases, and only fifteen per cent questioned the term.

Not all of the findings attributed to the interview with the psychologist at Stowe School are the actual results of the interview. In 1935 the investigator worked under the supervision of the psychologist to fulfill partially the requirements of an experimental course in Educational Psychology at the University of Cincinnati. Many of the findings discussed in this section are the results of contact with the actual situation and observations by the psychologist. Nevertheless, formal interviews were held in order to substantiate the data presented here in relation to the behavior problems arising in the teachers' classrooms. Results of the interviews from the point of view of pupil placement are given later.

The psychologist substantiated the data presented in Tables XIII, XIV, XV, and XVI. There is a wide variety of problems occurring in the classrooms. The diversity of temperaments among

the teachers tend to make them attach varying degrees of importance to the seriousness of the problems. Furthermore, the very presence of a psychologist in the school probably makes the teacher inclined to turn the problem over to some one else rather than solve it herself. However, it was emphasized that no teacher had failed to cooperate in aiding to seek a satisfactory solution to some problem of child adjustment. In cases of impudence, many teachers at first had reacted to the symptom displayed by the child's conduct rather than treating the cause, but a conference first with the psychologist, then a conference with the child and psychologist was sufficient to elicit her aid in determining the deeper meaning of such behavior. In this connection the majority of teachers had made home visits to investigate the causes of conduct of certain children.

When unsocial behavior is persistent in a classroom the psychologist takes the case over for investigation. She seeks to determine whether the cause is due to grade placement, some experience in the school, or home conditions. The first of these is determined by testing which will be discussed in the next section. The second is determined through an interview with the child in which his confidence is sought. Many of the problems originate in the home. Solutions to some of the home problems have reached the extent of supplying clothing to children and contacting welfare agencies in order that the family may be supplied with fuel and food.

There are occasions when the psychologist fails to find a satisfactory solution. In such cases the child is taken to the

psychiatrist at the General Hospital. After a thorough investigation by the social worker and the psychiatric case worker a conference is held in which the social worker, the psychiatric case worker, and the psychologist present data on the case. On the basis of such data, the psychiatrist determines what is to be done: Whether it is a case which can only be adjusted in a house of correction or whether it can be corrected by adjustments in the home. The psychologist estimates an average of three such cases a year.

3. Evaluation: Certain factual evidence in relation to the establishment and development of Stowe School might serve to clarify an evaluation of the treatment of behavior problems. The school was established largely through the efforts of the late Dr. Jennie D. Porter. Her idea was to establish a school which would furnish a wholesome developmental environment for under-privileged children (29). The factor of race was not a part of the original plan, and the statement is supported by the fact that a number of white pupils attended the school in the beginning. Additional evidence is found in the fact that Negro children may attend any school in the city of Cincinnati. One of the important implications of the basic philosophy of a school of this type is that environmental factors are important in certain types of conduct and behavior disorders. Sherman quotes a number of these factors from a paper read before the National Research Council in 1933 by George D. Stoddard (35:268). They are as follows: economic handicaps, physical handicaps, mental retardation, racial handicaps, broken homes, parental ignorance and

indifference, chronic illness and intoxication in the family, family tensions, parental domination and others. Sherman comments on environmental factors as follows:

> The simple statement that the child lives under an economic handicap is not sufficiently explanatory not only because, as stated previously, the child's reaction to this handicap must be evaluated, but also because various problems enter into the determination of the influence of economic difficulties. One child whose family is as economically handicapped as another may react in a healthful way to his difficulties. If he comes into contact with other children whose economic status is as low as his, he is not as likely to develop conflicts as readily as a child with a similar handicap who is forced to adjust to children with a higher economic status (35:268).

The statement supports the establishment of a school of this type and points out that such schools do offer emotional protection to under-privileged children. Other studies supporting indirectly the idea of emotional protection are as follows: Prosser found that while Negro children learned as well in mixed schools as in an all Negro school, there is a tendency to develop traits of introversion (31). Mason found that the school does influence moral knowledge of children (25). The study was made in connection with Stowe School children and points out that a school can influence moral knowledge where the conditions of the home are bad. Drayton, also dealing with Stowe School girls, found that the personal problems of the children were no different from those of other children, that the difference was more or less one of social background (7). It, therefore, becomes apparent that the school is primarily established for a well balanced emotional school life of its pupils.

In the light of this background an evaluation of the treatment of behavior problems as they occur in the classroom is given. An interpretive summary is as follows:

a. The two problems rated as most serious by the largest percentage of teachers are lying and disorderliness. The percentage was thirty in each case.

b. Twenty-five per cent rated talking as equal in seriousness with depression, unhappiness, and temper tantrums.

c. No problem mentioned was considered most serious by as many as seventy per cent of the teachers.

d. Smoking and profanity were rated as serious by seventy-five per cent of the teachers.

e. The only items which no one classified as most serious are smoking, profanity, and obscene notes.

f. The only items which no one classified as relatively unimportant are unsocial attitude and smoking.

g. Ten per cent of the teachers rated depression, unhappiness, profanity, cruelty as similar in seriousness and relatively unimportant.

h. The largest percentage in rating any problem occurred in the case of obscene notes. Eighty per cent of the teachers rated it as relatively unimportant.

The small number of teachers rating any problem as most serious is indicative of a philosophy not in accordance with the good mental hygiene practice. In a study of teachers' attitudes by Wickman, mental hygienists considered such behavior patterns as unsocialness,

unhappiness, and depression and resentfulness as extremely important (50:127). Even in rating these items as "serious", a lower step in the scale, the majority of the Stowe School teachers rated smoking and profanity as more serious. Furthermore, the one hundred per cent teachers approving the denial of recreation and whipping indicate unapproved methods of punishment (53:112-115).

The evidence points to unapproved practices in the classroom and calls for a new point of view of the teachers in the treatment of behavior problems.

4. Recommendations: It is, therefore, recommended that the conference between the psychologist and the teacher continue on problems of child behavior with the psychologist assuming the initiative in pointing out the relative importance of certain types of problems.

Pupil Placement.- In this section the technique is applied to pupil placement in Stowe School.

1. Standards (28:219):

   a. The progress, efficiency, and emotional health of the children should be safe-guarded by homogeneous grouping.

   b. Special groups should be provided for the gifted child. This group is composed of the upper two to four per cent on the educational and intellectual scale.

   c. The seriously retarded child should be placed in a special group, the group to be composed of one per cent of the seriously retarded children.

2. Findings: The other aspect of the formal interview with the psychologist dealt with pupil placement. There is no organized method of

placement, with the possible exception of the testing of fifth and sixth grade pupils by the Research Department of the Board of Education. Pupils are selected for fast, average, or slow sections of a grade on the basis of their cumulative records. Measuring of mental capacity for achievement is only done when a pupil persistently exhibits patterns of unsocial behavior. Tests are then used to determine whether the work of the grade is contributing to his problem of behavior. The tests used are as follows: The Revised Stanford-Binet Intelligence Scale, Stanford Achievement Test, Terman Arithmetic Test, Terman Reading Test, Morrison-McCall Spelling Test, Woody Arithmetic Test, Gray Oral Reading Test, and the Detroit Word Recognition Test. Upon the basis of achievement, the pupil may be placed in a fast, average, or slow section of a grade. Again, he may be placed in a class for defectives.

The girls' class for mental defectives is the only one of its kind in Stowe School. Other classes for boys and girls are held in Jackson School four blocks away. The work for the most part consists of handcraft activities with a minimum of regular elementary school subjects. It often happens that a pupil classed as a mental defective is given a trial in the slow section of one of the regular grades. Some of the pupils adjust sufficiently from that point to graduate. According to the psychologist the work of the entire school is of such a nature that a pupil sixteen years of age, with an intelligence quotient of seventy-seven or a mental age of eleven years, six months, can finish the work of the seventh grade. Every attempt is made to locate and to place mentally

defective children in special classes during their early years in school. When a pupil becomes fourteen years of age and has shown no progress in school work, the psychologist signs his work slip which enables him to get a job.

3. Evaluation: Placement in Stowe School seems centered more about the mental defective and problem children than other pupils. Little attention is given the pupil who causes the teacher no trouble and does an average grade of work. The procedure is justified when consideration is given to the type of school Stowe School represents. As mentioned elsewhere in this study, the school was established for under-privileged children whose average intelligence over a period of years has been a dull normal. It is unusual when more than a relatively small number of Stowe School pupils are included in the upper percentiles of graduating junior high school pupils in the city. All of the problems which are characteristic of a mentally dull under-privileged group are present in the school. In such a situation, achievement based upon sheer mental ability becomes secondary in importance and the emphasis is placed upon adjustment and school activities which will contribute to good living with what mental ability the pupil possesses.

It seems that the placement procedures carry out the original purpose for which the school was established. Furthermore, it appears that the work of the psychologist in adjusting and lending a leveling influence in emotional problems as they occur in the school is of superior quality. Therefore, there are no recommendations.

Method of Instruction.- The technique is now applied to the methods of instruction of Stowe School.

1. Standards (44:67-69; 18:87-94):

   a. Some scheme should be provided for an allowance of individual differences in performance, provide for a wide range of projects, and utilize the values of small group activities.

   b. Motivation becomes important from the point of view of mental hygiene and includes the following: Avoidance of threats of punishment, sarcasm and nagging; avoidance of competition in activities, with emphasis placed on the enjoyment of an activity in the spirit of worthwhileness. Motivation further implies that group discussion is more than a teaching device; that it enables individuals to develop independence and initiative and at the same time to prevent aggression and domination.

   c. For class recitations to have social values the following principles must obtain in lesson planning: Practice should be alternated with instruction, evaluation, and thinking about efficient social techniques; neither more recitation nor practice alone will result in adequate social adjustment. Definite effort should be made to develop social qualities in pupils deficient in the ability to get along with others. Routine is necessary, but it should grow out of pupil-teacher thinking on problems as they arise.

   d. Adequate adjustment is, to a large extent, merely a matter of having adequate habits and skills which are necessary to cope with a given situation.

2. Findings: The data on instructional methods used at Stowe School were secured through observation and through certain items on the original questionnaire sent to the teachers. Good instruction aims to use the curriculum and pupil-teacher relationships in such a way as to prevent behavior problems from arising. This is a positive side of discipline and is in harmony with good mental hygiene practice and theory. The presence, however, of a visitor in the classroom creates a tension which makes the true nature of instruction difficult to detect. Teachers become more guarded in the conduct of their classes and pupils fail to react as they would under normal classroom conditions. This condition of tension confronted the investigator during his classroom visits.

Factors of time and classroom tension, to a degree, placed limitations upon the reliability of the observations made of Stowe School instructional methods. However, the teachers appeared to have definite control of their classes. The procedure of each class visited seemed to stress a general recitation period followed by a period devoted to special attention to those who had shown difficulty in the particular subject. While the teacher is engaged in giving aid to groups with special difficulties, the remainder of the class is allowed to draw, to play quiet games, or to read. As the grades become higher the tendency in the classes visited is to substitute advanced work and reading for games. The children apparently had freedom of action, for their movements and conversation while the teacher was engaged seemed habitual and not a display for the visitor.

Another source of information dealing with methods of instruction was the questionnaire. Teachers were asked the number of class projects they had had in the last three months, the number of pupils with reading and spelling difficulties and, finally, what the rest of the class is doing when the teacher is giving individual instruction. Of the fourteen teachers in the first four grades in the elementary school, nine reported thirteen projects over a three-months period in which all pupils had a part. In regards to reading and spelling difficulties, all twenty home room teachers reported eighty cases with spelling difficulties. Throughout the elementary grades there was a distinct tendency to give individual and group attention to those who exhibited difficulties in subjects. The various methods of keeping the rest of the class occupied are shown in Table XVII.

3. Evaluation: The brief period available for visiting the classroom and the tension exhibited during the visits make any determination of the efficiency of instructional methods difficult. There were indications of good method in individual guidance, lack of strain between pupil and teacher, and the use of projects. While it might appear that there is a discrepancy between the seemingly excessive number of behavior problems reported in Table XIII and the evidence of good method observed by the investigator in the classroom, such a position is not necessarily tenable. The reporting of a large number of behavior problems might be indicative of a highly desirable degree of sensitivity on the part of the teacher.
4. In the light of the evaluation there are no recommendations.

TABLE XVII

ACTIVITIES APPROVED BY TEACHERS FOR PUPILS WHO ARE LEGITIMATELY UNOCCUPIED

Activity	Percentage of teachers using activities
Doing advanced work	8
Keeping silent	0
Working on class project.....	17
Anything they like	12
Playing games	7
Others (not stated)	1

The School Organization for Efficiency

The preceding sections of this chapter have tested the use of the technique in relation to the physical plant and the classroom experience. This section will further illustrate the use of the technique by applying it to the organization of Stowe School for efficiency.

Hygiene of Instruction.- The following section treats of the validation of the technique through an evaluation of the hygiene of instruction.

1. Standards (28:220; 6:52-53):

   a. Children must provide energy not only for work but also for growth; the normal working level should be regarded as their

maximums; the level at which they can work without fatigue.

b. Six hours is the maximum working period for children with no more than three hours without food. If home work is required, the school day should be shortened.

c. The program should be arranged so as to provide for rest periods in the middle of each session for diversion by alternating one activity with another and for play.

d. The school program should provide for regular lunch periods of sufficient time for lunch and rest.

e. The amount of work required for a child should be fixed by what can be accomplished by an individual working at normal speed within the limits of the school day.

f. Schools should provide tasks that are challenging and satisfying.

g. There should be desirable outlets for feelings in art, music, play, and social activities.

h. A situation of freedom and happiness in the classroom should exist through the calm, deliberate, and poised manner of the teacher.

i. Protection from overstrain in connection with special programs, drives, holidays, and noise should be the responsibility of the administration.

2. Findings: Information dealing with the organization of the school day was obtained through an interview with the principal. Information relative to the hygiene of instruction was secured from the principal, the teachers of special activities, items on the questionnaire to the teachers, and actual contact with the situation.

The Stowe School day extends from eight forty-five in the morning to three o'clock in the afternoon.[2] Kindergarten children attend school a half day. In the elementary grades recess is provided in both the morning and afternoon sessions. A one hour lunch period is arranged between noon and one o'clock. The pupils of the fifth and sixth grades have no recess period, for the subjects are departmentalized. Physical education and auditorium activities are scheduled for those grades twice a week. The length of time allotted to such activity in the first four grades of the elementary school varies from fifteen to twenty minutes. An outline of a typical day at Stowe School in the lower elementary grades is listed below. The programs as displayed on each door may vary in detail but the general plan is the same.

8:45-9:10: Grades I and II have some form of reading and a discussion about what has been read from the bulletin board. The upper grades alternate with reading, writing, spelling, and numbers.

9:30-10:10: Reading for all grades with an allotment of time to groups with various degrees of reading difficulty.

10:10-10:25: Recess

10:30-11:30: Alternative of reading, writing, and music in all four grades.

11:30-11:55: Used in some instances for furthering skills in current activities; in other cases the period is used for checking up and dismissal

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[2] Based upon an interview with Mr. George Phillips, Principal of Stowe School, in May, 1936, and January, 1938.

12:00-1:00 Lunch

1:00-1:20: In Grades I and II music, language, supplementary reading, and number games. In Grades III and IV nature study and geography.

1:20-2:05: Handwork for all grades

2:05-2:25: Recess

2:30-3:00: Dramatization, music, and stories.

In the fifth and sixth grades classes are forty minutes in length. Pupils pass from classes in arithmetic, geography, English, spelling and nature study at the end of each period.

Information dealing with special activities was secured from the teachers of these activities. Each of the following paragraphs is a brief description of the special activities in Stowe School.

Cooking classes in home economics for fifth and sixth grade pupils are conducted during the second semester of each school year. The aim of the courses are to develop personal habits of hygiene in the preparation of foods, and to develop a knowledge of the care of the kitchen and its equipment, through actual work. The course is compulsory for all girls except fifth grade girls, but each year a class of fifth grade girls is organized. While much of the work deals with the care of the hands and care of the kitchen and its equipment, emphasis is placed upon preparation rather than on the place of a particular food in a meal. The more advanced courses on the preparation of simple meals and dinners are designed for junior high school pupils. Classes in sewing for fifth and sixth grade pupils give instruction in elementary needle work and in

underlying scientific facts of clothing. During a visit to this class the topic for discussion dealt with the necessity of wearing a wrap after exercise.

The industrial arts classes are designed primarily to teach boys the correct use of tools in woodwork, tin, clay, and leather. During the year household articles such as taborets, cups, necktie hangers, and hall racks are designed and made by the class.

Music is taught in all grades either by the home room teacher or the special teacher. In the case of the grades from one through four the teachers follow an outline presented them by the special teacher. It is the opinion of the administration that music so taught is ineffectual due to the lack of technical knowledge on the part of the home room teachers. All fifth and sixth grade pupils attend classes in the music room. The aim of the work is an appreciation, from an elementary point of view, of music of all nations. Instruction in seasonal music and appropriate music for various occasions is also a part of the course. An instructor of piano gives lessons, for a reasonable fee, to any pupil who desires to take them.

The physical education activities are under the supervision of four instructors. Two women instructors supervise the girls in physical activities and swimming, and two men instructors supervise the boys in graded games and sports. The physical education program consists of graded activities and include folk dancing, social games, games of low organization, competitive games for the

boys, and stunts. All children are classified according to age, height, and weight and are tested for improvement in game skills and stunts at the end of the year. Swimming activities are confined to the acquisition of the most elementary of skills.

In the auditorium pupils are taught the proper ways of behaving when present in large groups. They also take an active part in plays and programs.

The activities of the eye conservation class are concerned with the protection and conservation of vision among Stowe School pupils. Those pupils who, through the routine medical examination or upon a classroom teacher's investigation, are found to have defective vision come under the supervision of the teacher of this special class. The aim of the work is not only to aid pupils with defective vision to conserve their sight, but also to help them acquire habits of eye conservation. Pupils of every grade make up the class and each pupil is supplied with texts which have enlarged type. All the reading the child does in school is done in this room. All of his recitations are done in his regular classroom. Pupils with severe cases of myopia take physical education under the direction of a special teacher who comes to the school twice a week.

Information on other factors which might contribute to the efficiency of the school organization was secured through items on the questionnaire which dealt with play in the elementary grades, excuses, gatigue, and undue noise and excitement.

In regard to play, fifty per cent of the teachers commented upon the inadequacy of facilities for play purposes when the weather is incliment. The two rooms in the basement are so crowded during the recess period that the children really do not play but just pull and tug at each other. When the weather is fair, recess periods are held out of doors. Asked whether they supervised the play periods or not, sixty per cent of the teachers answered that they supervised in the sense of averting danger. Twenty per cent reported that they had charge of the lines marching from the building for recess. The remaining twenty per cent listed Ring Toss, guessing games, Bean Bag, singing games, Tag, marbles, and rope jumping as some of the games they taught the children to play.

The returns from the items on the questionnaire which dealt with excuses indicated that the average number of daily requests for excuses was 160. Thirty per cent of the twenty home room teachers reported their requests as excessive, and all teachers felt that making up time after school or during the noon hour was the most effective way of curbing excessive requests. Eighty per cent of the teachers in the first four grades reported that they had emphasized the use of the lavatory at recess periods and the impertance of the proper foods which aid in elimination.

Only two cases of habitual sleeping in class were reported, and these had been referred to the nurse. Thirty per cent of the teachers reported eleven cases of fatigue to the nurse but indicated that they had done nothing about following up the cases.

Table XVIII contains the sources of noise and excitement of which Stowe School teachers complain. Those rooms which are located on the side of the building nearest the playground or near the music room complain of class interruptions from these two sources. The lack of automatic stops on doors is also a cause of an excessive amount of door slamming. At the time of the study the administration was becoming aware of a number of persons entering the building without first obtaining permission from the office. More recently, the rule has been rigidly enforced whereby no person may visit a classroom without the permission of the principal.

TABLE XVIII

CAUSES OF UNDUE NOISE AND EXCITEMENT AS REPORTED BY STOWE SCHOOL TEACHERS

Causes of undue noises	Number of teachers reporting
Music rooms	4
Radiators	3
Windows	2
Furniture	6
Doors	5
Too many visitors	1
Voices from playground	1

3. Evaluation: The length of the school day and the amount of time allotted to each subject are fixed by school laws governing the schools of Cincinnati. The six hour schedule with recess and lunch periods meets standard requirements. The frequent rest intervals in the class itself, caused by personal guidance of the teacher to various groups, are indicative of the fact that no pupil suffers fatigue or overwork through the arrangement of the program. Furthermore, there seems to be ample time for evaluations and checking up; time which might be used for emphasis on activities which ordinarily receive little attention. Health is one of these.

The wide variety of special activities appears sufficient to allow for expressions in music, home making, dramatics, and play. At the time of the investigation, art was taught by the home room teachers, but more recently an art teacher gives instruction in the subject twice a week. There seems, however, to be a certain need for improvement in the teaching of music in the lower grades. The regular teacher of music has a full schedule of regularly assigned classes and supervision of music activities is next to impossible in the grades one through four. The administration has expressed the opinion that the present arrangement where all music instruction is given by the general classroom teacher is unsatisfactory.

The arrangement of the school day, from the point of view of time, and the provision for numerous rest periods appear, respectively, limited and flexible enough not to allow for fatigue in pupils. If a pupil shows continued signs of fatigue to the extent of being referred

to the nurse, then his case deserves a conference with the nurse about his condition and an investigation into home causes.

In regards to undue noise and excitement, there was a relatively small number of teachers reporting on individual items on the questionnaire, but the total number of causes was sufficient to interfere with an efficient school organization. It is apparent that nothing can be done about the music room and the playground without major adjustments. Too many visitors as a cause of interference has been corrected. Furthermore, noise from radiators is temporary, for the efficient system of cleaning and inspecting will remove the noise in due time.

4. Recommendations.- The recommendations which seem practical for the improvement of the school day organization are as follows:

a. That time spent in the classroom checking up and putting away materials might be decreased and spent on subjects such as Health.

b. That an arrangement should be made by which the instructor of music might be relieved of her present heavy load to permit her to supervise all instructions in music.

c. That the congestion in the playrooms be relieved by alternating their use by groups in Grades I and II with groups in Grades III and IV.

d. That teachers take a more active part in the direction of games during recess.

e. That all cases of fatigue, referred to the nurse, be followed up.

f. That a definite attempt be made to reduce all excessive noise.

SUMMARY

1. The proposed technique has definitely established its validity as an effective appraisal instrument of the environmental phase of a school health program through its application to Stowe School. This was accomplished by meeting the subsidiary demands of the problem of the study in the following manner:
   a. The standards of the ideal program selected through a survey of the literature, provided a criterion which pointed out the responsibility of any elementary school health program to pupils and to community in matters of an adequate physical plant, good emotional experiences, and a good organization of the school for efficiency.
   b. The following survey tools successfully measured the aspect of the environment which they were intended to measure:
      (a) The Strayer-Englehardt Rating Score Card for Elementary School Buildings proved to be an effective tool in collecting detailed data relative to the physical plant of Stowe School.
      (b) The original questionnaire to the teachers was objective in the collection of data dealing with the classroom experiences of children and the organization of the school for efficiency.
      (c) The interviews with the school principal and psychologist provided supplementary information dealing with the conditions of classroom experience and the organization of the school for efficiency.

(d) Observation through daily contact furnished additional first hand information relative to all phases of the school environment.

c. Effective comparisons were made possible by a wide range of accepted standards and a similar range of data secured in the Stowe School situation.

d. Practical improvements were suggested with facility due to nature of standards and the objectivity of the data.

2. The technique revealed certain other favorable qualities beyond the demand of the subsidiary problems:

a. Flexibility seemed to be indicated in the facility with which the technique lent itself to the evaluation of contrasting aspects of the environmental phase of the Stowe School health program.

b. Adaptability to any school environment seems evident in view of the success in validating the technique under the exacting conditions of the Stowe School environment.

CHAPTER IV

HEALTH SERVICE

Health service is the second phase of the Stowe School health program in which the technique is applied for purposes of validation.

Health service is defined as the various protective measures used to conserve and to improve the health status of children. Basically, this phase of the program deals with the medical aspect of school health. The modern trend, however, in school health education is the recognition that every phase of the program has something important and indispensable to contribute to the education of the child (44:6). The implications of this modern trend mark the distinction between public health activities and school health activities. The former is concerned primarily with curative or reparative results, but the latter stresses the necessity of using the findings of school health service activities to educate children, parents, and teachers.

School health service, as established by authority, consists of the following activities:

1. Health examination and inspection as made by physician, psychiatrist, dentist, nurse, physical education teacher, or classroom teacher.
2. The follow-up program and correction of remedial health defects such as conditions of malnutrition, defective teeth, and orthopedic defects.

3. The daily inspection to discover whether the child is in good enough health to be in school that day. The inspection centers in detecting early signs of health disorders, and excluding these children with recognized signs of disorders and readmitting pupils after illness.
4. Immunization of children against infectious diseases.
5. First aid and safety provisions.

However inclusive these activities may seem to be, the technique would lose much of its value if it failed to show the relationship between the health service activities and the educational activity. Therefore, the technique proposes to evaluate not only these activities, but also the degree of personnel rapport and the administrative organization.

The Technique.- The technique as applied to health service activities may be restated as follows:

1. Setting up standards in the separate fields of personnel rapport, administrative organization and personnel, examination, follow-up and the correction of defects, control of communicable disease, and first aid and safety provisions.
2. Using the following survey tools to collect data in a given school situation:
   a. The Franzen Teacher Health Procedure Test to determine the degree of personnel rapport.
   b. The interview to determine the type of organization and personnel in the health service department.

c. The Franzen School Health Procedure Test to determine the scope and thoroughness of the examination and the general background and knowledge of the nurse.

d. Home interviews with the parents of children with uncorrected defects to determine the amount of school home cooperation.

e. Interviews with members of the health service department to determine the outside sources which aid the school in the correction of defects.

f. Interviews and observation to determine the method of procedure used in the control of communicable disease.

g. Interviews and observations to determine the first aid and safety provisions.

3. Comparing the data secured in the given situation to the standards established through a survey of the literature.

4. Drawing up recommendations for the improvement of this phase of the program.

The Relation of Health Service to General Education

The purpose of this section is to determine how well the health service program as a whole is integrated with the purpose of the educational activities of Stowe School. For example, for all practical purposes the health program of a school is initiated at the time of the health examination. The defects found are duly recorded and follow-up work done with the ultimate intention of correcting the defects. This work alone is not sufficient for a school program. The presence of every actitity of the school should be

of some educational value (53:227). It becomes, therefore, important to know to what extent the findings of the examination, and the examination itself, offer opportunities for classroom instructional aids. Obviously, the entire health program must center about the classroom teacher, and there must be a high degree of personnel rapport between teacher-physician, teacher-dentist, and teacher-nurse. These relationships insure the teacher of expert knowledge and advice in aiding her to develop good health knowledge, habits and attitudes in children. The application of the technique follows:

1. Standards (14:57-66):
   a. A general school health policy and method of procedure should be agreed upon by the nurse.
   b. There should be a general policy and method of procedure relative to dental matters agreed upon by the oral hygienist and the teachers.
   c. There should be a mutual use of health records by the teacher and the nurse.
   d. The nurse should be in possession of information furnished by the teacher on cases for which she is to make a home visit.
   e. The teacher should exhibit initiative in referring cases to the nurse.
2. Findings: The device selected to collect the data in this aspect of health service is the Franzen Teacher Health Procedure Test which is applied through interviews and which is found in Appendix B, page 212 .

The items in the Type A materials represent principles which are concerned with school procedure and policy. Type B materials deal with the use of records, the home visits of the nurse, and the participation of the teacher in the examination.

In determining the extent of teacher-nurse rapport in regard to the agreement of school health policy, Stowe School teachers were asked if the nurse had given any advice on the following items:

a. How to pursuade children to improve habits of cleanliness.

b. Prevention of dental cavities.

c. What to do in an outbreak of measels.

d. How to make sure children newly fitted with glasses have a re-examination at the proper time.

e. Running eyes.

f. Running nose.

g. Pink eye.

h. Inflamed eyes.

i. Suggestions for a class project other than those on diet and communicable disease.

The results of applying this section of the test to the teachers indicated that no advice had ever been given the teacher on any of the first ten items of the test. Since there was no dental hygienist in the school, there were no scores for the items eleven through seventeen which dealt with the agreement between teacher and the dental hygienist about policy and procedure.

The following quoted material represents the teachers' reaction, expressed during the interviews, to the Type A items and gives an indication how the situations mentioned in the test are met at Stowe School:

Teachers are trained to pursuade children how to improve habits of cleanliness. References are not made to the nurse nor are references made by the nurse on cleanliness.

Teachers use health pictures and talk on points of proper food and cleanliness to aid in prevention of cavities. The advice of the dentist may be sought at the time of the visit to the clinic for the correction of defects.

A child with suspicious rash is naturally referred to the nurse who excludes pupil until reasonable signs of measles disappear.

Health projects are originated by teachers on their own initiative.

There is no dental hygienist. Teachers are supposed to be observant enough to refer to the nurse cases which need attention. The nurse advises parent to consult family dentist and if necessary to arrange for attention of dentist at clinic. Generally, only a brief report of what was done is made to the teacher.

It would seem that teachers in Stowe School are unanimous in saying that the nurse has given no advice relative to the health problems in their classrooms. By their own admission, they expect the health service activities to be conducted as a separate unit from the regular classroom activities. Furthermore, the results of the test and the teachers' statements show that there is no cooperation in policy and indicate specifically where the lack of cooperation exists.

To determine the amount of teacher-nurse cooperation in regard to health records, teacher initiative in referring cases to the nurse, and the teachers' participation in the examination, the Type B items were applied. The items at the end of the Type B test were applied to the nurse to discover the amount of information she had secured from the teacher about a case on whom she was ready

to make a home visit for vision or malnutrition. The scores on the nurse items were to be applied to each teachers' score, but this part of the test was eliminated upon the suggestion of the nurse who ventured the information that she never conferred with the teachers about cases on whom she was to make a home visit.

Records play an important role in health work when they are accessible and in constant use. The accessibility of Stowe School records was determined by asking the teacher questions which include the following items:

a. Name one pupil at whose home the nurse has made a follow-up call during the last five months.

b. Name one child who had medical attention for heart defect or nervous condition, or hearing defect.

c. Name all pupils who have had tonsilectomies.

d. The number of times the nurse inquired for information about a case on which she was about to make a home visit.

These items are representative of the teacher's willingness to go to the files for information about her pupils. The extent to which she cooperates after gaining the information was determined by asking the teachers if they, themselves, kept a list of their children's defects which were found in the nurse's records and whether they tried to improve habits in the following cases:

a. Children who had defective teeth.

b. Children who had been immunized.

c. Children who had measles.

d. Children with other illnesses.

The ferreting out of individual cases of defects and disease should be the responsibility of the teacher as well as the health service department. An indication of teacher initiative in referring pupils to the nurse and teacher responsibility in daily inspection was sought through the following items:

a. Teacher can name pupils she referred to the nurse for exclusion because of headache and fever, or sore throat, or persistent cough.

b. She can name a pupil who was referred to the nurse because of repeated absences.

Items dealing with situations when the teacher assumes full responsibility by inspecting daily are:

a. After a case of scarlet fever occurs.

b. After a case of whooping cough occurs.

c. After a case of measles occurs.

The presence and participation of the teacher at the physical examination are important from two points of view: (1) A history of the child is insured by one who has observed it, and (2) the teacher gains information as to the needs of her pupils. The items on the test which dealt with this phase of personnel report are:

a. The teacher takes part in the physical examination by measuring height and weight, vision, and hearing.

b. The teacher reports that she took notes on the physician's findings.

The results of the test show a strict adherence to the school policy of allowing the health service activities to be conducted separately. The scores on the items dealing with the accessibility and use of the records were very low. There had been no conferences with the nurse about home visits on cases of malnutrition, defective vision, and nervous condition. However, the scores on items dealing with knowledge of children receiving medical treatment for heart defect, nervous condition, and the removal of tonsils were high. It might be stated here that the questions were asked in such a way that it would be clear to the interviewer that the teacher either did know of such cases or there were none in the class. The fact that the teachers, as a whole, knew of medical attention given their pupils but did not know whether or not the cases had been followed up by the nurse, seems to indicate that teachers received their information from sources other than from the nurse or her files. There is no attempt by Stowe School teachers to follow the more economical plan of consulting health records and the nurse for information to be entered on the child's cumulative record.

The highest scoring on the test was done on the items dealing with teacher initiative in referring cases to the nurse. The tendency is to refer children who do not "look right" rather than to refer them on a sounder basis. For example, seventeen of the twenty teachers reported cases of headache and fever referred to the nurse, but the teachers have no access to a thermometer in order to see for themselves

whether the child has a fever. Furthermore, in the light of the teachers' not knowing whether the cases were followed up, there seems to be the tendency after reference to the nurse to drop the matter.

The scoring on the teachers' participation in the examination was low because Stowe School teachers are not expected to measure height, weight, vision and hearing. These items are taken care of by the nurse while the teacher records the physician's findings.

The results of applying the test include the scores of the Type A and B items plus the twelve items which were asked the nurse and credited to each teacher. The range of scores is eight, the median is ten, and the average eleven.

3. Evaluation: In evaluating the degree of personnel rapport in Stowe School between health and educational activity, the evidence points to the conduct of health work as a separate activity. The aspects of personnel rapport, as revealed by the application of the Franzen Teacher Health Procedure Test, in which improvement is indicated, are concerned with the examination, records, follow-up, and the daily health inspections by the teachers. The improvement of the personnel rapport, however, can only come through the improvement of the features of health service mentioned above. These features are appraised in the following sections and recommendations for improvement made.

4. Recommendation: For the above reason, there are no recommendations.

Administrative Responsibility and Personnel of Health Service

The technique is here applied to the administrative organization.

1. Standards (33:26; 36:133; 42:269-273; 44:253-254):
   a. The responsibility for the administration of all school activities should rest with the superintendent of schools.
   b. In large school systems the superintendent may delegate to some individual the responsibility of the administration of the health program.
   c. The personnel which deals directly with the health program in the school depends upon the size of the school system. In large cities the staff is as follows: physicians, nurses, dentists, dental hygienists, dental attendants, oculists, psychologists, visiting teachers, nutritionists, health counselors, and teachers of health and related subjects.
   d. The school physician should have some training in educational philosophy. His duties are to supervise communicable disease control and to make health examinations.
   e. The nurse should be a graduate of an accredited school of nursing and should have some special training in education. Her chief duties are:
      (a) To inspect pupils returning after an absence due to illness, or those especially referred by teachers.
      (b) To assist the physician with health examinations.
      (c) To assist in the control of communicable diseases.

(d) To keep satisfactory medical and nursing records of the health conditions of children.

(e) To follow up children with physical defects in order to urge parents to have the defects corrected and, if necessary, to arrange for having it done.

(f) To give health instruction in the home and to interpret the school health program in the home.

(g) To interpret the home environment of individual children to teacher and physician.

(h) To attend emergencies and to administer first aid at school in the absence of the physician.

(i) To support and to assist the teacher with the health training program.

(j) To teach courses in first aid, home nursing, and child care.

(k) To develop and maintain satisfactory relationships between the school and all health resources of the community - private physicians, dentists, social and welfare agencies, as well as public health educational, professional, and civic organizations.

(l) To participate in the promotion and maintenance of the hygiene and sanitation of the school plant.

f. The duties of the school dentist should be to supervise all preventive dental work, to make dental examinations of pupils, and to do such work as may be demanded by the school dental program.

g. The duties of the dental hygienist should be to assist the school dentist and to do oral prophylaxis.

h. The duties of the school nutritionist include the following:

(a) To teach nutrition and home economics in the upper grades.

(b) To direct the school lunch room.

(c) To aid in conducting special nutrition projects in the lower grades.

(d) To give talks to teachers.

i. The duties of the classroom teachers relative to health program are as follows:

(a) To assist in interpreting the school health program to the home.

(b) To participate in the health examination.

(c) To assist in the control of communicable disease.

(d) To weigh and to measure pupils.

(e) To conduct the daily health inspection.

(f) To supervise the school lunch.

(g) To supervise organized play as suggested by the physical education department.

(h) To teach subject matter in health and hygiene.

(i) To develop special health training activities.

(j) To correlate health with other subjects of the curriculum.

2. Findings: Information dealing with the personnel and administrative organization of health activities in Stowe School was secured from the following sources: The Director of Health and Physical Education of the city schools, the school principal, the school physician,

the school dentist, the nurse, and through a general contact with the school routine.

All health activities of Stowe School, except one, are under the control and supervision of the Cincinnati Board of Health.[1] The one exception is the dental program of the school in which the Board of Education furnishes the finance, the Community Chest furnishes the space in the Shoemaker Clinic, and the College of Medicine the supervision.[2] The school physician and the nurse are employed by the Board of Health and work part time in the schools and part time in public health activities. With this one exception the school has no supervision over the health service activities in the school.

The amount of correlation between health and educational work in the schools is dependent upon the amount of mutual understanding possessed by those working in the field of health and education.

The interview with the principal of Stowe School revealed the administrative philosophy of the school in regard to health matters. The school, itself, is out of sympathy with the idea of assuming responsibility for the supervision of its own health activities.

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1 Based upon an interview with Dr. W. K. Streit, Director of Health and Physical Education of the Cincinnati Public Schools, in January, 1936.

2 Based upon an interview with Dr. H. I. Wilson, Stowe School dentist.

The principal receives and asks for no report from the health service department on the health status of the average Stowe School pupil. Health inspection and the use of health activities for educational purposes are not stressed because the administration believes that health work should be a separate unit. Outside agencies are asked to aid the school in relieving severe cases of defects, but this effort is largely the result of the personal interest of individual teachers.

The physician comes to the Stowe School twice a week and usually remains for an hour during each visit. He has other schools under his supervision and the additional responsibilities of a district physician. His duties are primarily concerned with examinations, inoculations, and checking on cases of illness which have been referred to him by the nurse. His signature must appear on all readmission slips of pupils who have been excluded from school because of illness.

The work that the school dentist does for Stowe School is financed by the Board of Education, but his duties are performed in connection with his regular work as dentist of the public health service activities of the Cincinnati Community Chest. He takes no part in the yearly dental examination given Stowe School pupils made under the direction of a dental staff employed by the Board of Education. His work is confined purely to the correction of dental defects.

The nurse is one of the regularly employed public health nurses who spends one-half day at Stowe School and the other half in duties connected with public health nursing. All of her instructions are

issued by the supervisor of public health nurses and she is held responsible only to the supervisor. Her duties are to assist the physician, to keep records, to sign exclusion and readmission slips, to follow up cases, and to give first aid to pupils referred her by the teacher. If a communicable disease arises, she makes a daily inspection of the room over a period of days. One of her special d uties is to supervise a group of tubercular girls during their rest period. Afternoons of school days are spent in home visits and at the tuberculosis clinic. Saturday mornings are given to writing reports and receiving instructions.

3. Evaluation: Health education theory stresses the control of all activities within the school. It is estimated that in cities with a population of over ten thousand, seventy-five per cent of health work is under the control of the education authorities, fifteen per cent under control of the board of health, and the rest under joint control (44:0). It seems evident that practice in this phase of health education is not far behind theory. Furthermore, the administrative organization of school health activities in Cincinnati would be improved by the proper placing of responsibility. An evaluation, however, in the administrative organization of the city's health activities is not within the province of the study. In the light of the accepted standards on organization and personnel the data secured from Stowe School must suggest changes in the arrangement the school already has in order to meet the standards as much as possible.

The first step in a rearrangement would necessitate a gradual change in the philosophy of the Stowe School administrative officers in regard to the importance of a well-rounded health program. This could be achieved through a broader program of duties for the nurse. Placed on the same basis as other staff members in matters of salary and responsibility, she could in a comparatively short period of time coordinate all the school activities which contribute to the health of the Stowe School pupil. The nurse's new status would give her a decided advantage in placing health problems before the administration and the rest of the staff. A change of this type need not affect the present organization, for the Board of Health would still remain in control. Salary increase should be met by the Board of Education with the provision that educational courses be taken by the nurse in order to understand the problems of the school.

The current trend in the employment of full-time physicians and dentists indicates that in cities with a population over ten thousand, there is one physician to approximately, 5,320 pupils and one dentist to every 9,860 pupils (44:35). The combined duties of the Stowe School physician in various schools and in the capacity of district physician tend to make his time limited and his examinations hurried and superficial. It seems that by removing some of the clinical duties, there would be more time to examine pupils and to visit the classrooms. In the case of the dentist, too, there should be an arrangement whereby his duties and his participation in the school program could be increased. The school as a whole comes into contact with professional

dental advice only once a year when every pupil in the school is examined for defective teeth. The school dentist takes no part in this examination, and the dental advice he gives is to those pupils who have defective teeth. Stowe School is of the type which needs continued expert professional influence for the development of proper health habits in its pupils. One method of having the dentist brought into closer contact with the school is to permit him to take part in the yearly dental examination and to give advice to teachers and to the nurse on cases arising through the dental examination.

4. Recommendations: The study recognizes the fact that administrative practices in school health work in Cincinnati are out of harmony with current trends. The ideal situation would be the supervision and control of all school health activities by the Board of Education. However, suggestions for change in organization on a city wide basis would be impractical and out of harmony with the purpose of this study. The recommendations for the improvement of the organization of health activities in Stowe School are as follows:

a. That the nurse be relieved of her public health nursing duties and that she be placed on the same basis as other members of the staff as coordinator of all Stowe School health activities.

b. That the school physician be permitted to confine his time and efforts to school work alone.

c. That Stowe School receive more of the benefits of professional dental advice by the participation of the dentist in the annual dental examination sponsored by the Board of Education.

The Health Examination

This section treats of the validation of the technique through its application to health examination procedures.

1. Standards (15:8-9; 28:207-209; 36:133-139; 45:22-24):

A. Medical and Health Examinations:

a. Examination of children before they enter the first grade of school has become routine procedure in many parts of the country.

b. A physician should make the health examination.

c. The school should provide a periodic health examination which consists of a detailed inspection administered by the physician and his assistants.

d. The examination should have its educational aspects.

e. Findings of the examination should serve as a basis for recommendations concerning the child's school activity.

f. Diagnosis of defect and disease should always be followed by positive recommendations for immeidate treatment and future procedure.

g. The teacher and parent should be present during the health examination.

h. The scope of the examination is as follows:

(a) Anthropometric measurements: height, weight, age and sometimes other details such as breadth of pelvis and chest and sitting height.

(b) Test of vision, hearing, breathing, and heart reaction.

(c) Examination of conditions of the skin, cervical glands, teeth, tonsils, adenoids, and nasal passages.

(d) Estimates of nutritional status and conditions of the nervous system.

(e) Examination of bodily structure and carriage, including feet, back, and general posture.

(f) Record of immunization for communicable diseases.

(g) Noting other defects and physical abnormalities.

i. A thorough physical examination demands the removal of clothing.

j. A good physical examination is objective, that is, it sets up standards as to what constitutes a defect and rigidly adheres to that standard. For example, there are varying degrees of decay in teeth; some tonsils are in worse condition than others; and cases of malnutrition differ in the degree of seriousness. At what point of decay or at what degree of seriousness should a defect receive consideration for follow-up purposes?

k. Complete and continous records including personality records should be kept of each child throughout his school life.

l. The records should be made available to the classroom teacher and administrative officers.

B. Dental Examinations:

a. Dental needs of children and dental facilities of the community will determine the advisability of offering treatment as a part of the school health service.

C. Mental Examination

a. The school should provide adequate psychological service for determining the ability levels of children.

b. The classroom teacher should be helped to recognize personality problems in their early stages and should be encouraged to refer these problems to the psychologist.

2. Findings: The data dealing with the health examination in Stowe School were secured by applying a section of the Franzen School Health Procedure Test; by examining health records of all elementary pupils; and through general contacts with the physician and nurse. The psychological service of the school has been discussed elsewhere in this study and the findings will not be repeated here.

The physician and nurse aim to make a routine examination of all children, who have never before attended school, during the latter part of the summer. When the regular school session begins, routine examinations are made in the kindergarten and in Grades I, III, V, and VIII. The physician makes the examination while the nurse makes vision tests with the Snellen Card. The general conduct of the examination consists of the following steps. Children of a particular grade gather in the health service room, accompanied by the teacher who assists in recording the physician's findings. Parents are invited and in some instances do attend. In the upper grades an attempt is made to separate the boys and girls, but in the lower grades everyone is examined in the one room. The boys are required to strip to the waist, while the girls are asked to adjust the

collar of the dress sufficiently to allow for the use of the stethescope. The law forbids the complete disrobing of children for examination purposes. No definite amount of time is spent on any one child, but the general impression obtained was that an attempt was made to complete the examination of all children present by the end of the hour. There is not sufficient time to talk to pupils other than to ask if this or that hurts. No weighing and measuring are done during the examinations, for the nurse assumes the responsibility of weighing each child in the elementary grades at least twice during the school year. If a child has not been vaccinated or inoculated, the fact is recorded on his health card and during the physician's next visit the child is immunized.

The scope of the examination is found in the items in Table XIX and in the health record form in the Appendix E , page 271 . The table is presented primarily at this point to indicate the scope of the examination in regards to the number of defects found and the number of corrections made over a three and one-half year period. The data were secured through an examination of all health records of pupils from the time of entrance through the sixth grade. The 521 children with health records do not represent all of the children examined but only those children in whom some defect was discovered. The results will be discussed later in this section.

TABLE XIX

THE DISCOVERY AND CORRECTION OF PHYSICAL DEFECTS OF ELEMENTARY PUPILS AT STOWE SCHOOL DURING THE PERIOD 1932-1935

	No. of defects	No. of non-corrections	No. of corrections	Per Cent Corrections
Communicable disease	15	8	7	46
Defective vision	116	76	40	34
Disease of eye	15	15	1	6
Acute conjunctivitis	0	0	0	0
Hearing	5	5	0	0
Disease of ears	10	7	3	30
Teeth	447	374	73	16
Tonsils and adenoids	240	207	33	13
Disease of the respitory system	10	10	0	0
Suspected tuberculosis	19	19	0	0
Malnutrition	53	53	0	0
Enlarged thyroid	10	10	0	0
Other Glands	0	0	0	0
Cardiac	15	15	0	0
Nervous system	1	1	0	0
Orthopedic	13	13	0	0
Pediculosis	0	0	0	0
Other skin diseases-eruptions, scabies tetter	15	13	2	13
Veneral (no data)				
Worms, circumcision	11	10	1	9
Totals	996	836	160	16

The scope of the examination and the rapidity with which it was conducted established doubt as to its value from the point of view of thoroughness. The physician and nurse admitted that the examination was not as thorough as it might be due to the limited amount of time. The only available standard by which to judge the thoroughness of a health examination was a section of the Franzen School Health Procedure Test which dealt with the examination. Franzen says of this section of the test (14:67-68):

> Whether this examination be the first step in the procedure, it must be thorough and trustworthy or the expenditure of much time and energy on the program as a whole will be wasted. Among those items chosen by virtue of their proven relation to school health results, we find some that represent this aspect of the program. The significant interpretation does not rest in the precise nature of the items selected but rather in the quality they represent. The quality is thoroughness and care. The physical examination materials presented below are selected because they have a measurable school health effect. They are all characteristic of an extended examination. No two minute line-up has these earmarks of value.

This test is found in Appendix B, page 210, and its application is by means of observation and marking a "1" beside the items if they are included in the physician's examination.

The results of the application showed that out of a possible eight points the examination as conducted scored eight points for the boys and six points for the girls, the difference in scores being a matter of removing the clothes to the waist. The scope of the examination covers the items listed in Table XIX and the method of conducting the examination includes items of procedure which indicates a high degree of thoroughness.

An interview with the physician provided evidence to show that with the possible exception of vision and hearing that he had

established no standards for judging the seriousness of a defect. Some defects might not be as serious as others, but conditions forced the cases to be followed up.

Health records of pupils are kept by the nurse in the health service room. Cumulative health records are supposed to be kept by the teachers but the procedure is not enforced. The records of the nurse are available to all teachers and administrators during the time she is in the building.

The yearly dental examination held in Stowe School is sponsored by the Board of Education. Every pupil in the school is examined by the visiting staff which consists of dentists and oral hygienists. The school dentist has no part in this examination, and his only way of knowing what has been done is by the nurse sending pupils to him to have defects corrected.

3. Evaluation: The scope of the health examination covers a wide range of items, but even with the aid of standards by which to measure its thoroughness there still remains some question of doubt. The wide scope, the rapidity, and the statements of the physician and nurse are factors which are the basis of the doubt. Probably the average rating of a number of judges, or a rating by a person with medical experience, would be a more searching method of determining the thoroughness of the examination.

The conduct of the examination probably would better serve as an instructional medium for teachers if they were given a more active responsibility. Finding height and weight, measuring vision and hearing, and taking notes on the physician's findings are activities

which would enrich the teacher's background and knowledge of health and provide her with tangible instructional material for classroom purposes. The success of the procedure would be dependent upon the centralization of health authority and supervision in one person.

From the point of view of economy, it would be better for the physician to set a standard as to what constitutes a defect, thus eliminating the less serious cases for follow-up purposes. Table XIX shows the number of defects found in 521 children to be 996 over a three and one-half year period. The number seems excessive and apparently the only position for the health service to take is to treat the more serious cases.

In regards to the use of the records by teachers and administrators, it is evident that supervision with authority is necessary. The records of the health service department are only concerned with children who have defects, and the cumulative records carry all other facts about the child except his health record. In the latter case, there is space for the health record but in many instances the teacher does not use the space provided. Furthermore, complete records of the health status, mental status, and scholastic achievement of every pupil should be located in the files of the principal's office.

The participation of the dentist in the yearly dental examinations and his discussions with the nurse and teacher about cases of defective teeth will provide professional dental advice for the whole school. This recommendation was made in the last section.

4. Recommendations: Many aspects of the health examination could be improved by the supervision of a health coordinator equipped with the proper authority to integrate the health examination with the educational activities of the classroom. However, specific recommendations for the improvement of the health examination of Stowe School are as follows:

   a. That the examination be used more as an instructional medium for teachers by giving them a greater degree of participation and responsibility.

   b. That the physician set standards as to what constitutes a physical defect in the Stowe School situation and strictly adhere to the standard established.

   c. That health records be the only source to which teachers go for health information to be entered on each child's cululative record.

   d. That a complete record of each child's physical status, his mental status, and his scholastic achievement be placed in the principal's office.

Examination Follow-up and Correction of Defects

The application of the technique to follow-up procedures will not have the same significance in all types of schools. It is reasonable to suppose that problems of home cooperation in the correction of defects would be far less in a school located in a district of a high social status. There is general agreement among authorities on school health problems concerning the functions of the school and home in the follow-up and correction

of defects. The following quotation outlines the functions of each (49:63-64):

> This coordinated child health program should ask of the school: active cooperation in the summer round-up; periodic health and dental examinations of children, except when provided by the home, and careful and continuous records of these available to both home and school; active and sympathetic assistance to parents in securing correction of health defects through the family and other qualified agencies.

In districts of a low economic status the cooperation between home and school takes on a different aspect than that outlined in the above quotation. Cooperation between home and school comes to mean the method of procedure followed by the school in urging parents to correct their children's defects. Failing in this, the school must on its own responsibility, use every available means offered by the community in correcting the defects discovered in its routine medical examination. This principle is not supported by a general agreement of health education experts, but it is supported by two basic facts: (1) that medical examinations without correction of defects are of little value, and (2) the trend of American public welfare agencies is to supply the necessities of life to indigent families.

The technique, therefore, when applied to the follow-up procedures of any school health program must first consider the standards to be included in this phase of the ideal school health program. Second, the evaluation process must determine, among other facts, the following: (1) the ability of the home to assume responsibility for the correction of defects as indicated by the economic conditions and the attitudes of the family; (2) what cooperating outside agencies will aid the school in the event the home fails in its responsibility; and (3) the types of families needing close medical and educational supervision for the proper

development of their children in the classroom.

1. Standards (23:3; 24:117; 28:209; 36:133):
   a. The school should make a report to the parents of the discovery of remedial defects and should make recommendations for co-operation of parents and family physicians.
   b. Provisions should be made for reference to the proper medical authorities of all boys and girls who need medical attention.
   c. The school should make provisions for a contact with the home to secure cooperation in the correction of defects.
   d. A report of the examination and the physician's recommendation should be made available to all teachers and departments coming in contact with the child when the interest of the child demands it.
   e. There should be changes in the program for cases such as pupils with heart lesions, deficient vision, deficient hearing, and nervous and undernourished children.
2. Findings: The order of presenting the data of this section secured in relation to Stowe School is as follows: (1) the thoroughness of the nurse's preparation of follow-up cases; (2) methods of notifying the parents of their children's defects; (3) factors of family life of the children of the school which affect the cooperation between home and school in the correction of defects; (4) the responsibility the school assumes in the correction of defects by seeking the cooperation of outside agencies; and (5) presenting a brief case study sketch of the types of families in

need of close medical and educational supervision in the interest of the child. For purposes of clarity these points will be discussed under the following headings: home-school relationships, contacts with outside organizations and brief case studies of the home environment.

Home-School Relationships

In order to find out how thorough was the nurse's preparation for home visits the remaining section of the Franzen School Health Procedure Test found in Appendix B , page 210, was applied to the nurse. The results show a well prepared individual in her field. Out of a possible twenty points the nurse scored nineteen. Her experiences include demonstrations by dentists of various aspects of dental decay, instruction from the supervising nurse on home visits and classroom inspection, and wide contacts with other nurses and teachers. Although she had no information from the teacher about children whose homes she was prepared to visit, she had all the facts concerning each child's physical condition. This is evidenced by the high scores made by the nurse on items which required her to call in children whose homes she was about to visit for the correction of vision, malnutrition, and dental defects. In each instance, her records met the requirements of the items on the test.

The methods by which the health service department contacts the home are found in Appendix E, page 264. Forms which are

used to notify the parent of the child's defect, notices of exclusion, and other forms are likewise described in this Appendix.

To determine how effective had been the influence of the school in securing the cooperation of the home in the interest of the health of the child, the health records were examined, and 150 pupils selected for home visits. Sampling at first was based upon cases with two or more uncorrected remedial defects over a period of two years. Change of address and removal from the city caused some of the cases to be dropped. These were replaced by cases with one or more defects over a period of a year. The same problems confronted the investigator and the final number of cases selected for the study for which there were complete records was 146. The object of the home visits in addition to determining the influence of the school on the home, was to discover possible causes of non-correction, the status of the relationship between school and home, and the environmental background of the average Stowe School child. This was accomplished by dividing the items on the home inquiry sheet into divisions of economic status; home-school relationships, and environment. In order to secure a good response to the items on the inquiry sheet, the services of a social worker in the Stowe School district were secured to make the home visits. The fact that she was known to the majority of the families visited established confidence in the interview and gave a reliability to the responses. The inquiry sheet is found in Appendix B , page 214.

The percentage of corrections as indicated in Table XIX is sixteen. The low figure may be attributed either to the lack of proper methods of the school in notifying the parent or the home may be responsible. The results of the home inquiry show that ninety-four families or sixty-four per cent of the homes visited admitted receiving written notices from the nurse, sent by the child, concerning the child's condition. What the parent did upon receiving the notice is shown in Table XX. Other inquiries as to whether the child had complained recently and what the parent did about the complaint brought the results in Table XXI. Parents reasons for non-correction of defects are important to this study. Those given in the 146 home interviews are found in Table XXII.

TABLE XX

THE ACTION TAKEN BY NINETY-FOUR FAMILIES WHO ADMITTED RECEIVING NOTICES CONCERNING THE HEALTH OF THEIR CHILDREN

Action taken	Number	Per Cent
Did nothing	19	20
Examination by private physician	15	15
Conference with nurse	56	59
Examination at free clinic	4	4

TABLE XXI

THE PARENTS' KNOWLEDGE CONCERNING THEIR CHILDREN'S DEFECTS

Extent of parent's knowledge	Number	Per Cent
Knew of long standing defect . (Based on 146 cases)	98	60
Child complained recently (Based on 146 cases)	79	54
Knew nature of complaint (Based on 79 cases)	72	91
Tried to find out nature of complaint (Based on 79 cases)	7	8
Took one of the following steps to relieve condition (Based on 79 cases)		
1. Gave home remedy	65	82
2. Sought doctor's advice	10	12
3. Did not know what to do	4	5

TABLE XXII

PARENTS' REASONS FOR THE NON-CORRECTION OF DEFECTS OF 146 STOWE SCHOOL PUPILS

Reasons given	Number	Percentage
Expense	6	5
Opposed to operation	3	2
Indifference	17	11
Private physician's advice	5	3
Working hours did not permit	30	20
No reason	22	15

Factors aside from the parent's knowledge and attitudes affect the extent to which the school may go in influencing the home in child development. The economic status and the background of the family are potent determining factors in the relationships between the home and the school. It is thought that the economic status of families of Stowe School children is low. Such a statement must be supported by a canvass of a sampling of the families of all Stowe School children relative to their families' means of support and living conditions. Table XXIII contains the facts for twenty-seven per cent of the families of all Stowe School children for whom a health record was found. The occupations followed by those of the families who work are found in Table XXIV.

TABLE XXIII

SIGNIFICANT FACTS CONCERNING THE ECONOMIC STATUS OF THE FAMILIES OF 146 STOWE SCHOOL CHILDREN

Median number of years living at same address	3
Median number of rooms	3.5
Average family membership	5.82
Average number in family who work	1.4
Average income per week	11.68
Average rent per month	12.87
Number of families on relief at some time	110
Number of families deriving present livelihood on W. P. A.	121
Number of families expressing preference of relief	48

TABLE XXIV

FORM OF OCCUPATION FOLLOWED BY FAMILIES OF 146 STOWE SCHOOL CHILDREN

Occupation	Number	Percentage
Laborer	80	54
Domestic Service	28	19
Tire changer	1	.01
Mechanic	2	.01
Tailor	4	.03
No occupation	31	21

Contacts with Outside Organizations in Follow-up Work

The conditions under which the follow-up of physical defects must be made have just been presented. The introduction of the efforts which the school makes to correct defects on its own responsibility and with the aid of outside agencies seems, at this point, timely.

The Board of Education has arranged for the correction of dental defects of school children throughout the city. Shoemaker Center on Cutter Street is assigned to Stowe school for the correction of defects one three-hour period a week. The forms used to gain the parent's consent to repair the child's teeth are found in Appendix E , page 275 . According to the principal there is no organized effort to obtain glasses for pupils whose families are unable to purchase them. What is done is done through the initiative of teachers who raise funds by giving subscription social affairs or who arrange benefit performances with the managers of the theatres of the community. The work of the sight conservation class has been discussed elsewhere in this study.

The Health Center on Clarke Street is under the supervision of the Board of Health and to it are referred cases of cardiac and social disease. Tonsilectomies are arranged at the General Hospital by the nurse. During home interviews fourteen per cent of the families indicated the need of hospital services for their children but had waited over a period of from two to twenty-four months for an appointment.

In regard to the special problems of tuberculosis in Stowe School, the efforts of the Board of Health are noteworthy. In 1933 every pupil in the junior high school received a chest x-ray, and during

1934 all children in the school were examined and x-rays given those deemed necessary. The pupils who were selected as the result of the examination as having the adolescent type of tuberculosis were organized into a special class for rest and relaxation purposes. A quart of milk a day is allotted each pupil and the class is under the supervision of the nurse during the period of eleven to twelve o'clock in the morning.

Another attempt to deal with the problem of tuberculosis in the school is an experimental study by one of the teachers. This study seeks to establish a modified physical education program for girls who have exhibited symptoms of the adolescent type of tuberculosis.[3]

The two outside agencies which the investigator found to be of the most value in aiding the school in its health problems were the Stowe School Parent-Teachers Association and the Kroger Hill Camp for colored under-nourished children. An interview with the president of the Parent-Teachers Association brought out a number of facts concerning the organization.[4] There are 250 active members who meet once a month. The principal attends regularly and there is an occasional attendance by some of the teachers. There are no membership fees. The topics discussed usually deal with problems of delinquency and the part local dance hall proprietors and theatre managers play in contributing to child delinquency. Problems of the health of school children are rarely discussed

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[3] Based upon an interview with Mrs. Clara Estill Hough, instructor of swimming, who has a master's thesis under way on the problem of physical education activities for tubercular girls.

[4] Based upon an interview with Mrs. Ila Turpeau, president of the Parent-Teachers Association of Stowe School.

at the meeting. The president recalled two talks given by the health authorities on tuberculosis in the last two years. Efforts to obtain expressions of problems which involve a cooperation between school and home are often met with a silence, so characteristic of the people of the West End District when gathered in groups.

No formal interview was held with the supervisor of the Kroger Hill Camp, but the investigator has visited the camp informally and learned from the supervisor the scope and purpose of his work.[5] The camp is expressly for Negro children who have shown signs of malnutrition or tuberculosis. It has two sessions of six weeks duration and a child who has been in camp the first session cannot return for the second session. There is no fee attached and the children as a group are supervised in a minimum amount of work and play. Rest periods are so arranged that the physical condition of the child is never endangered. There is no organized way of selecting children for the camp. The supervisor has a club consisting of the mothers of the children, and any mother who has a child who is suffering from malnutrition or suspected tuberculosis may join and make application for the child's entry into the camp for a six weeks' session.

Brief Case Studies of Home Environment

The brief cases presented in this section aid in the validation of the technique by supplementing the picture of the home environment.

The homes which the nurse must attempt to influence in the interest of child development vary as to types. From the point of view

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[5] Based upon a visit to the Kroger Hill Camp and a talk with Mr. Anthony Meese, the supervisor.

of follow-up work, the families of 146 Stowe School children fall roughly into the following classifications:

a. Families which offer a relatively good environment for their children and give every indication of being willing to assume their responsibility in home and school cooperation.

b. Families in which the home conditions are bad and which require the close supervision of the community's educational agencies.

c. Families in which there are tubercular contacts and which require medical supervision in order that their children may be safe in their contacts with other pupils of the school.

The following summaries and home case studies are representative of each group in the above classification. The studies are of necessity brief, offering only the facts of family life as they affect the health of the child.

a. The relatively good home: This group of families is characterized by the cleanliness of their homes, a willingness to make the best of conditions in spite of low wages, and an apparent concern over the health of their children. The economic status of the group is by no means stable for many of the families are on relief. Others are proud of the fact that they never have received relief nor have accepted medical treatment at the public health clinics. The families know little about the health conditions of their children and as a rule do not have the children examined by either a private physician or by a physician in the public health clinic. When the child complains, the invariable procedure is to give him a home remedy. However, when notified by the nurse, they have either consulted the

nurse on what to do or have taken the children to the clinics. The brief case studies listed below are specific examples of this type.

Case 1. When Minola was examined by the school physician it was found she had defective teeth, a disease of the respiratory tract, and impaired vision.

The family consists of the father, mother, a grown daughter and son, and Minola. They occupy a five room apartment over a grocery. The building is located on a corner and, as a result, the rooms are very bright. The interview was held in the kitchen which was clean and in good order. The apartment is equipped with electricity and gas, and there is hot and cold water in the kitchen and bathroom. The rooms are heated by furnace heat which is supplied by the owner.

The mother stated that the father has part-time employment which pays him twenty-one dollars per week. To supplement this she does laundry work. Neither grown child is employed. The family never has been known to a social agency. From the trend of the mother's conversation and her apparent age, it is doubtful whether she is the mother of Minola. It is believed that the oldest daughter is the child's mother.

Minola has been a delicate child but has had no illness which has confined her to bed. Her parents have given her the best possible medical care under the circumstances. The respiratory disease, while not entirely cured, has improved. She is still taking cod liver oil but has not been examined at the clinic lately. When the nurse notified the mother about the child's eyes, the refraction

was made, but her parents have not been able to buy the glasses. Her teeth were repaired at Shoemaker Center.

Case 2. Herbert is seven and is in the first grade. A conference with the school nurse revealed that he is in need of a tonsilectomy and that he is subject to malnutrition. He is eight pounds underweight.

The family consists of the mother, her two children and her sister. They live over a bakery, and to reach the apartment one must pass through a dark hall and up narrow stairs. The only entrance is through the kitchen. The rooms are small, well furnished and clean. The flat is equipped with electricity, gas, and water. The toilet is in the hall and is used by two families.

The father and mother are separated. The mother was away at the time of the visit and the aunt, who was interviewed, said she knew nothing about her sister's marital difficulties. Herbert's mother cooks for a private family and earns twelve dollars per week. The family has never been known to any relief agency. However, the medical care they receive is obtained at the public health clinic. There never has been any tuberculosis in the family.

A note from the nurse advised the mother to take her son to the Health Center for a complete examination. No diagnosis was made, but the mother was told to give Herbert a quart of milk a day and to have him rest a portion of each afternoon. The physician further advised that whenever he seemed listless and tired he should be kept home from school. Herbert has a poor appetite and will eat

no breakfast. He buys his lunch at school which consists of soup, so he says, but his aunt rather suspects he buys candy. When Herbert was examined at the clinic the doctor did not recommend a tonsilectomy, but his aunt is sure his mother will agree to the operation if it is necessary.

b. Homes of bad environmental conditions: The majority of the families of this group are on relief, and the wretched conditions of the home can be attributed to illness, lack of income, overcrowding, bad management and shiftlessness. The homes are usually dirty and the accommodations miserable. Illegitimacy occurs often. The problem of making money received from relief meet the demands of the bare necessities is a real one. As a rule, the families display a great interest in the health of their children, but the problem of existence is so fundamental that health needs are ignored. The following descriptions are typical of this group.

Case I. John is in the third grade and all during his short school life he has had diseased tonsils and adenoids and defective vision.

The family consists of the father, mother, eight children, and two grandchildren. They occupy a four room apartment which is badly in need of papering and the replacing of broken window panes. The family has lived in this location for only a short time, and when they rented the house the landlord promised to make the necessary repairs. They have been unable to pay the rent regularly and promptly, therefore, the landlord has not done the things he promised. The rooms were crowded to capacity with furniture, and in one room there

were three beds. The apartment has no gas or electricity. The family must go to the second floor for water, and the toilet is in the hall and is used by three families.

The father is ill and unable to work and the mother's health is also greatly impaired. The only income at the present time is sixty dollars per month which is earned by Arthur, an older son, on a W.P.A. project. Until he received the job the family was receiving aid from a county relief agency. The amount he earns is too small to meet the needs of fourteen people. When food is bought and a partial payment made on the rent, there is no money left. The family has applied to the relief agency for supplementary aid, but so far it has not been granted. The parents are deeply concerned because Arthur must give all his money to maintain the family and has none for his personal use. The oldest daughter, who is separated from her husband and has one child, lives at home but has no employment. Dorothy, another daughter, is eighteen, unmarried, and also has a child. Since neither father contributes to the support of these children, they too are dependent upon the grandparents. The day the visit was made the entire household seemed to be in a state of confusion and the mother said they lived in this manner always. The house was too small and they were all in each other's way.

The general health of the children is good. The school nurse had failed to notify the parents about the condition of John's tonsils and adenoids; however, a year ago she contacted them about his need for glasses. His eyes were examined at the General Hospital and glasses were purchased. After he had worn them about six months

he broke them. His parents have no money, therefore, the glasses have not been repaired.

Case 2. Ross' health card showed that his teeth had been defective from the second grade through the fourth.

There are nine persons in the household, and the group included the mother, her five other children and her two nephews. They occupy a three room flat into which they recently moved. The rooms are dark and poorly furnished. There are beds in all three rooms including the kitchen. The house is equipped with electricity which is not used because of the expense. Kerosene lamps are used instead. There is water in the kitchen and the toilet is in the yard. It is used by three other families.

The father deserted the family three years ago, and according to the mother they are well rid of him because he was an excessive drinker and failed to provide for the family properly. The mother is unemployed, except for laundry work which she does at home. She has had no employment since she has lived in the city, and the family is maintained by the local relief agencies. The nephews who live with her are orphans. All members of the household are in need of clothing.

In August, 1935, the mother's brother died in the General Hospital with tuberculosis, but he never had lived in his sister's home. The children were given chest examinations a year ago, but the mother has never learned the results of the examinations. With the exception of an occasional cold all the children are in good health but underweight. The mother attributes this to the fact that the food voucher

supplied by the County Welfare Department is too small for such a large family.

The school nurse sent a note to the mother regarding Ross' teeth and asked her to sign the note if she was willing to have the dental work done at the Shoemaker Clinic. She signed it and the repairs have been made.

c. Homes with tubercular contacts: The families in this group may have good home conditions or bad home conditions. The most important fact, however, is the the children are possible sources of danger to other children. From the point of view of follow-up, it becomes necessary for the school to know at intervals if the child has developed the disease.

Many of the families are aware of the seriousness of the disease and take their children to the public health clinics as precautionary measures. Others ignore a persistent cough, feeling that the child will soon get over it. Still other families, because of ignorance and stubbornness, will not admit to the existence of tuberculosis in the family and will not have the children examined. The following family sketches are typical.

Case 1. Sue's health chart revealed that she is a tuberculosis suspect. She is eight years of age and in the third grade.

The girl lives with her father, a widower, and five other children in a four-room apartment of a two-story building which has been converted into a two-family apartment house. There is a bathroom and toilet for the exclusive use of the family. The father pays sixteen dollars a month rent and has lived in the building for four years. When the family first moved in, they lived on the second

floor, but upon the advice of a Red Cross worker they moved to the first floor. The apartment is well furnished and clean. The mother was killed in an automobile accident in the summer of 1935. She had tuberculosis and had been advised by many physicians to go to the Branch Hospital. Since her death, the father has attempted to keep house himself with the aid of an aged woman. The woman, however, has been more of a care than a help. The father does all the cooking and sends the family's washing to the laundry every two weeks.

The father is a tailor by trade but has done little or no work for several years. He is an arrested tuberculosis patient who feels he contracted the disease during his service in the army. He has spent much of his time in various government hospitals and receives fifty dollars per month from the government as a pension. The Soldiers and Sailors Relief provides the family with three quarts of milk per day. According to the father, he has no other income. However, as he discussed his obligations and the manner in which he meets them, one questions whether he can do so with his income.

All of the children are tuberculosis suspects and they are examined at regular intervals. Davis, who is thirteen, has spent one year at the Branch Hospital. Three of the children need tonsilectomies. The father was given an appointment for each in February, 1936, but they all had severe colds and the appointments were not kept. The four older children have spent some time, during the past three summers at the Kroger Camp.

Case 2. McVernon is ten years old and in the second grade. Information supplied by the school nurse reveals that he is a tuberculosis suspect.

The mother and her son live on the top floor of a two-apartment building, and occupy four rooms. The rooms were very well furnished and clean. The house is equipped with gas and electricity, but the mother uses kerosene lights. Coal is used for cooking and heating. There is a sink in the kitchen, but the toilet is outdoors and is used by the one other family.

The mother is separated from her husband who is not McVernon's father. She is unemployed but claims never to have received aid from any agency. From her household furniture and the manner in which she was dressed, the mother obviously has some source of income.

According to his mother, McVernon has been ill for years, and she has done little to improve his condition because she believed that as he grew older he would become stronger. For a year he has been on the waiting list at the Preventorium. She stated that every effort had been made to provide proper food for McVernon and she allowed him to eat whenever he wished to do so. He generally went to bed about eight o'clock in his own room.

The boy's mother claimed that the nurse had not contacted her for more than a year regarding her son's physical condition. She said she would take McVernon to a private physician for an examination and, if the physician thinks it is advisable for her son to go to the Preventorium, she will do all in her power to have him committed at the earliest possible date.

3. Evaluation: From the evidence, it appears that the Board of Health assumes most of the responsibility in the follow-up and the correction of defects. The Board of Education, while making a splendid contribution in the correction of dental defects, is nevertheless lending no aid in the more serious type of defect of which tuberculosis is an example. When the access which the health service department of Stowe School has to public health clinics and to the General Hospital is considered, the percentage of corrections shown in Table XIX, page 127, is not impressive. The school meets the standards of the ideal program, but it fails to show results in the amount of corrections. This is probably due to the nurse's limited time in school health work, and the failure of the families to assume their responsibility in the correction of defects. Little hope can be entertained that a group with a status as shown in Tables XXIII and XXIV will ever be able to assume full responsibility for their share of home and school cooperation. Not an occupation listed in Table XXIV offers security and permanence. The only possible solution is through the combined efforts of the health and educational agencies of the school in getting families to take their children to the public health clinics.

All of the evidence seems to stress the need of a coordination of school and health activities. The types of homes discussed earlier in this chapter are in need of guidance. The relatively good home needs educational guidance on health problems; the poor home requires a school representative who will coordinate the efforts of social, health, and educational agencies in the interest

of the pupil living under bad home conditions; and the home of tuberoular contacts requires the close supervision of health agencies. The smaller problems are concerned with sufficient time for the nurse to do follow-up work, teacher-nurse cooperation, sufficient time for dental corrections, and hospital appointments. The larger problem is concerned with the appointment of a coordinator of a school and health activities.

4. Recommendations: While all problems in the Stowe School health program depend for solution upon a health counselor or coordinator, the special problems of follow-up methods are indicated in the following recommendations:

   a. That the nurse have in her possession facts about the classroom experiences of the child about whom she is to make a home visit.

   b. That the amount of time for dental corrections of Stowe School children be increased.

   c. That by some arrangement with hospital authorities more prompt attention be given the tonsilectomies arising in Stowe School.

   d. That Stowe School health problems be brought forcefully and regularly before the Parent-Teacher Association. Probably one of the greatest opportunities for parent education on health matters lies in the intelligent placing of the health conditions of the pupils before the parents.

   e. That the supervisor of Kroger Hill Camp be contacted as a possible means of entering the worse cases of malnutrition of Stowe School in the camp during the summer months.

Control of Communicable Disease

The technique seeks further validation through the evaluation of the control of communicable disease.

1. Standards (28:210-211):

a. Detection:

(a) It is to the teacher that falls the duty of detecting the early signs of departure from normal physical health. A rapid inspection of each child to determine whether he should be in school that day is the duty of the teachers.

b. Isolation:

(a) A child showing signs of communicable disease should be removed from the room and referred to the doctor or nurse.

(b) All exclusions should be reported to the Board of Health immediately.

(c) The diseases for which children should be excluded from school are: Smallpox, scarlet fever, measles, chicken pox, diphtheria, tonsilitis, whooping cough, pediculosis, mumps, scabies, trachoma, ringworm, impetigo, venereal disease, tuberculosis, influenza, and the common cold.

(d) When a child is excluded, a note should be sent home asking the parent not to allow the child to return until he can do so without danger to himself and others.

c. Immunization:

(a) Written certificates of successful vaccination should be required of all pupils entering school.

(b) The immunization records, accurate and easily accessible to teacher and physician, should be a part of the school health record.

(c) The school should provide for toxin anti-toxin immunity.

2. Findings: Morning inspection in Stowe School is listed on the room schedules as one of the teachers' duties. The regularity of the inspection is left with the individual teachers for, according to the principal, there is no check-up. When illness arises in the classroom the child is sent to the nurse with a referral slip stating the nature of the complaint. The referral slip is Form Z in Appendix E , page 281 . Before the child is readmitted to the class he brings back the referral slip stating what the physician has found the done in the case. Very often the slip is simply signed by the doctor. In case the child has to be excluded, Form Z in Appendix E , page 281 , is sent to his parents. A guide to the diseases for which the physician excludes is found in the symptom card which is Form AB in the Appendix E , page 285 . The monthly report of the doctor and the nurse to the Board of Health is Form R in Appendix E , page 265 . Form S in Appendix E , page 267 is a letter sent to the parent from the Board of Health as a means of follow-up on the excluded case.

All children who attend Stowe School must be vaccinated. Form AA in Appendix E , page 283 , is the letter sent to the parent for permission. Form AC , AppendixE page 287 , is the school health record on which space is allowed for vaccination and toxoid records.

3. Evaluation: The morning inspection, isolation, and immunization of pupils seem generally to meet the standards.

The results of the test on teacher-nurse rapport showed the largest amount of scoring on items dealing with referrals to the nurse.

Many of the teachers admitted that they would refer a child to the nurse if he did not "look right". Probably another reason is the fact that teachers lack the proper background and experience to recognize the symptoms which require an examination by the physician. Being able to recognize symptoms which require examination by a physician is not diagnosis, but neither is it a haphazard method of sending pupils to the nurse. Franzen says (14:69-70):

> Is it possible to develop a program in which the teacher refers cases to the physician, not with any attempt at accurate description, but rather with a request for examination? This would give her a function much like that of a mother who calls in a physician because she suspects that something is wrong. She describes the condition and expects the physician to identify it. The teacher as well as the mother could do this service. It is one thing to pick individuals from a group because they need attention and quite another thing to prescribe the kind of attention they need. The latter of these functions must of course remain the perogative of the physician, but there are many conditions which could be profitably noticed by the teacher even though their exact identification depends upon more technical insight. Our data indicate that a teacher could be so trained that her suspicions about teeth, vision, hearing and nutritional status could be relied upon as definite evidence that the child needed a thorough examination.

The training of which Franzen speaks is gained through the actual participation of the teacher in the health examination and the nurse's supervision of the teacher in dealing with health matters which arise in the classroom.

4. Recommendations: Full teacher responsibility in daily classroom inspection and referrals to the physician and nurse can come only as a result of coordinating the health and educational activities of Stowe School. Recommendations for the improvement of this aspect of the program are as follows:

a. A closer supervision of daily classroom inspection by the nurse.

b. The inclusion of more specific data on the referral slips returned to the teacher by the physician and nurse.

c. Opportunities for teacher growth in health knowledge by a participation in every phase of the health program.

First Aid and Safety Provisions

The materials of the last two chapters have been primarily concerned with safety provisions from the point of view of the physical environment, emotional environment, and protection from defects and disease. The whole study more or less has to do with protection from the point of view of prevention. Safety as used here is limited in its meaning and connotes the measures used in case of an accident or prevention of accidents. The validation of the technique in regard to first aid and safety is presented in this section.

1. Standards (44:184-185):
   a. It is the duty of the physical education department to see that all safety precautions are taken.
   b. The health and physical education department can contribute to the safety program by giving first aid instruction and by encouraging extra-curricular activities such as safety patrols, life-saving drills.
2. Findings: Safety provisions in the event of accident have been, until recently, under the supervision of the nurse. At the present time a city law requires that all accidents occurring on city property be treated by the district physician. Regardless of the

mildness of the case or the nurse's ability to deal with it, the patient must be referred to the district physician.

Schoolboy patrols sponsored by the Cincinnati Automobile Club supervise the street in the morning, noon, and at the time of dismissal. Quite often the patrols are supervised by city police. Traffic lights are being established at Seventh and Mound Streets, one of the most dangerous corners on the West End District. The corner is one-half block from Stowe School.

For play purposes the school blocks off Barr Street between Cutter and Mound Streets, and vehicles are prohibited from passing through while school is in session. The playground is fenced on all sides as a means of protection. Safety measures in the conduct of the physical education program include grouping of children as nearly as possible on a height, weight, and age basis plus a gradation of activities.

3. Evaluation: The attempt to safeguard the Stowe School pupil seems rather adequate. The corner at Seventh and Mound Streets has claimed on an average of one Stowe School pupil's life a year. The placing of traffic lights at this corner will be a tremendous aid to safety.

4. Recommendations: In the light of the protective measures established there are no recommendations.

Summary

1. This is the second phase of the Stowe School health program in which the technique has been validated as an appraisal instrument. Proof of the validation is shown below by the manner in which each step of the technique has met the demands of the subsidiary problems:
   a. Standards were established in the separate fields of personnel rapport, organization, examinations, follow-up and correction, control of communicable disease, and first aid and safety provisions. These standards not only indicate a good modern school health service program but also show the responsibility of the school to pupils and to the community.
   b. The following survey tools did measure as objectively as possible the health service program of Stowe School:
      (a) The Franzen Teacher Health Procedure Test which was used to gather data on the relationship existing between health service and educational activities.
      (b) The Franzen School Health Procedure Test which was used to gather data related to the examination, the nurse, and follow-up procedures.
      (c) Interviews with the families of 146 Stowe School children to determine probable causes of non-correction of defects.
      (d) Interviews with members of the Stowe School health service staff to determine what outside agencies aided in the correction of defects.
      (e) Contacts with these outside agencies to determine the extent of their aid.

c. The Stowe School health service program was evaluated on the basis of comparisons between the established standards and the collected data.

d. Recommendations for practical improvement were made on the basis of these evaluations.

2. The following facts are significant in the validation of the technique as it related to health service:

a. Since the evaluating step of the technique involves standards, findings, and recommendations, the technique is, therefore, a unit and can be applied as such to each aspect of the health service program.

b. The technique is exhaustive in its treatment of health service activities, for it was applied to Stowe School which, because of its bad environmental conditions, is forced to use every possible means of correcting defects. This means that the technique can be applied to the health service programs of elementary schools located in communities which vary widely in regard to social conditions.

c. Here, as in the preceding chapter, the technique demonstrated that it is practical and flexible.

d. The technique is unique in that it gives an integrated picture of the entire health service program.

CHAPTER V

HEALTH INSTRUCTION

Health instruction, according to definition, is an organization of learning experiences directed toward the development of favorable health knowledge, attitudes, and practices. While the classroom procedure makes a special effort to present factual information to children for the maintenance of a high level of individual functioning, actually children learn also about health in the school environment and health service. Certain activities of children arising through contacts with the environment and health service offer opportunities for adjusting and solving health problems in such a way as to make health instruction in the classroom a vital experience. The range of such opportunities was discussed in the last two chapters. The purpose of this chapter is to validate the technique by evaluating the health instruction of Stowe School.

The Technique.- The proposed technique as applied to health instruction is as follows:

1. Setting up standards for curriculum, objectives, subject matter, and methods of instruction.
2. Using the following devices to collect data related to the health instruction of a selected school health program:
   a. Interviews with the director of health education in the city schools and members of the school staff to determine the nature, scope, and the content of the curriculum.
   b. Observation during class visits to determine whether the instruction is direct, incidental, popular or a combination of all three.

c. Franzen's battery of five tests to be given at intervals to measure the health knowledge achievement of fifth and sixth grade boys and girls. If the school in question admits having no organized curriculum three of the tests may be used to determine the health awareness of sixth grade pupils. The three tests are the Franzen True-False, Matching and Story Tests.

3. Evaluating the data secured in terms of the ideal program.

4. Making recommendations for improvement.

Standards of Health Instruction

The application of the technique involves first the setting of standards (6:463-468; 18:119-122; 23:239-381):

1. The Curriculum:

a. The health education curriculum should be planned by a general curriculum committee with the active participation of the classroom teacher.

b. The first step of the committee should be to establish its philosophy as to the place and scope of health education and the place of health education in general education.

c. This philosophy should provide for the selection of curriculum content based upon a recognition of the equal importance of the physical, emotional, and social aspects of health.

d. The goal of curriculum building in health education should be a daily living program, subject to change and to growth.

e. The methods for determining objectives should include:

(a) An analysis of the natural activities of children to determine health education needs.

(b) An analysis of the social needs of the learner.

(c) Analysis of the needs of the learner in the opinion of competent persons.

(d) Organization of objectives according to grade levels.

(e) Organization of objectives on the basis of subject matter courses wherever subject matter courses are legitimate objectives in these courses.

(f) The content of the curriculum should be determined by a set of criteria which may serve as a guide to the classroom teachers.

(g) The curriculum plan should contain an outline of objectives in health education together with a sequence of experience and subject matter shown by analysis to be reasonably uniform in value in acquiring the objectives.

2. Objectives (18:35-104; 28:231-233):

a. The specific objectives sought through the curriculum should be:

(a) The selection of a balanced diet.

(b) A vigorous outdoor play program.

(c) The maintenance of a regular sleep schedule.

(d) The establishment of hygienic habits of elimination.

(e) The wearing of clothing suitable for the weather.

(f) A willingness to have defects corrected.

(g) The care of the sense organs.

(h) The care of throat, teeth, feet, and posture.

(i) The meeting of difficulties squarely through the facing of reality.

(j) Cooperation in work and play with other individuals.

(k) The successful completion of a task.

(l) The establishment of work habits that make for efficiency.

(m) The understanding of the principles of cleanliness and the use of those habits which help prevent the spread of disease.

(n) The acceptance of the responsibility in seeking professional advice when needed.

(o) The acquisition of a sense of responsibility in protecting one's own health.

3. Subject matter (28:234-236; 44:146-161):

a. Subject matter should be selected according to accepted scientific research.

b. Studies in the field of health education indicate that the content of the field centers around foods and food habits; sunshine and fresh air; rest and sleep; exercise; body cleanliness, elimination; hygiene of special organs; sanitation and preventive measures; clothing; safety and first aid; mental hygiene; sex education; alcohol, tobacco and drugs; physiology; and posture.

c. Subject matter should provide for differences in the needs of individuals and groups.

d. Health activities should be used to achieve the objectives of health education and should secure the cooperation of parents, teachers, and pupils.

e. Subject matter should be related to health experiences or activities in order that association may be established between knowledge and application in terms of conduct.

4. Materials and methods (28:234-236; 44:145-161):

a. The materials of health education should include all activities and situations in the child's daily life which may have health value; all the environmental equipment which the child uses; all services in relation to health protection and promotion; all individual and group activities in so far as they offer opportunities of increasing health information; all health instructional matierals such as texts, supplementary materials, and other visual aids to learning.

b. Instruction should be related to activities and situations with which the pupil has had personal experience.

c. The instruction of children of the elementary school should be in the form of practice rather than theory.

d. Positive aspects of health should be emphasized in instruction.

e. Instruction in the lower grades should be given chiefly by correlation.

f. Materials which present standards of good conduct through fantasy and fairy tales should also provide for a range of real experiences which will result in good health behavior.

g. Materials should provide opportunities for the child to discover facts through handling real materials or those which have to do with reality.

h. The activity promoted should be fundamentally worthwhile in the life of the child.

i. If motivation is based upon competition and awards, there should be such a close relationship between the activity and the award that removal of the latter will not affect the interest in the activity. Furthermore, provisions should be made to protect the emotional health of both the winner and the loser.

Findings in the Application of the Technique

The data dealing with the health instruction in Stowe School were secured from the following sources: An interview with the Director of Health and Physical Education of the city schools, home interviews, classroom visits, and testing the health awareness of sixth grade boys and girls. The method of procedure is to present (1) findings according to incidental, direct, and popular instruction, (2) data on home visits as it related to health habits and the home physical environment, and (3) the results of testing 146 sixth grade pupils for health awareness.

The interview with the Director of Health and Physical Education mentioned in the last chapter revealed that there was no organized health instruction in the city schools. No committee has ever been formed to establish suitable health objectives and to plan suggestive health experiences to achieve the objectives.

Visits to the classroom and contacts with the teachers provided evidence to show that health teaching in Stowe School is incidental. In the lower elementary grades much of the incidental teaching is done during morning health inspection. Class projects through many of the elementary

school subjects provide opportunities for health instruction. There is however, no general plan or organization in presenting the subject matter. The teacher introduces the health material at a time when it best suits her purpose. In the upper elementary grades the idea of incidental health instruction is continued. One of the classes visited in the fourth grade seemed well informed on topics of teeth, nutrition, and exercise which were under discussion at the time. The class used a text (4), exhibited evidences of projects in making posters, and had organized a health club. In the fifth and sixth grades, where the instruction is on the departmental plan, health instruction had been assigned to the geography teacher during the year the present study was made. Teachers of other subjects in those grades had assumed responsibility for health teaching in the past years. The texts in the fifth (8) and sixth (5) grades are used to supplement health teaching which might rise incidentally from a subject like geography. One of the class projects of a sixth grade class was a breakfast which was an outgrowth of a geography lesson on foods.

Evidence of popular health instruction was found in the safety posters in each room, moving pictures on various aspects of health, and the activities of National Negro Health Week. The safety posters are a part of the program of safety education carried on in the city schools by the Cincinnati Automobile Association, the Fire Department, and the Board of Health. Information as to what agency showed moving pictures on health was not available, but all teachers agreed that moving pictures on health topics had been shown. Perhaps the greatest efforts in popular health instruction are observed in the activities of Negro Health Week.

The movement is national in scope and under the supervision of the United States Public Health Service. The first week in April is set aside for health activities in Negro communities throughout the country. During the week all routine work at Stowe School is centered about health activities. The days of the week are divided so that on each day a certain type of health activity is stressed. For example, Monday is clean-up day in the home and separate meetings are held for mothers and fathers at the school; Friday is the day set aside for health essays, health poster displays, pageants, etcetera.

Health instruction, whether incidental, direct, or popular, in order to have meaning must consider the home background of the pupil. For example, knowledge of proper eating habits is only superficial if there are problems of food shortage and of preparation of meals in the home. The home interviews with the parents offered an opportunity of finding out what were some of the habits of Stowe School pupils in the home relative to sleep, food, and bathing. In addition it was desirable to know the actual home accommodations in regards to water, toilet facilities, and light. These items are found on the home inquiry sheet in Appendix B, page 226. The results are found in Tables XXV and XXVI.

TABLE XXV

HABITS IN THE HOMES OF 146 STOWE SCHOOL PUPILS
IN REGARD TO FOOD, CLEANLINESS, AND SLEEP

Item	Number	Per Cent
Three meals prepared for child each day	120	82
Eating of meat restricted	105	72
Wash hands before eating	82	56
Bathes three times a week	14	10
Bathes twice a week	77	53
Bathes once a week	55	38
Changes underwear three times a week	14	10
Changes underwear twice a week	77	54
Changes underwear once a week	55	38
Has toothbrush	98	67
Sleeps with windows down	109	75
Goes to bed at seven p.m.	10	7
Goes to bed at eight p.m.	67	45
Goes to bed at ten p.m.	9	6
Goes to bed at eleven p.m.	3	2
Sleeps alone	19	13
Sleeps with one person	75	51
Sleeps with two persons	48	33
Sleeps with three persons	5	3

TABLE XXVI

LIVING ACCOMODATIONS IN THE HOMES OF 146 STOWE SCHOOL PUPILS

Item	Number	Per Cent
Living in flats	130	89
Living in residences	16	13
Have kitchen	141	96
Have bathroom	27	18
Have bath tub	33	22
Have living room	21	14
Have dining room	6	3
Water located only in kitchen	116	79
Water located in bathroom and kitchen	28	18
Water located only in hall	3	2
Have cold water only	119	81
Have hot and cold water	27	18
Have electric lights	68	46
Have gas lights	36	24
Have kerosene lights	42	28
Toilets located in bathroom	27	18
Toilets located in basement	1	1
Toilets located outside	42	28
One family using one toilet	58	39
Two families using one toilet	58	39
Three families using one toilet	21	15
Four families using one toilet	8	5
Five families using one toilet	1	1

The next step in presenting the data health instruction is concerned with reporting the results of the testing program on the health awareness of pupils. Health awareness as used here is the amount of facts the pupil possesses about teeth, cleanliness, food, and other aspects of health. The subjects selected for testing were 146 sixth grade boys and girls. The sixth grade was selected arbitrarily as the best group of children to represent the knowledge of the average Stowe School pupil who is about to enter the junior high school. The results of the approach would seem to involve knowledge of health matters derived from the formal training of the elementary school and from any other source outside of the school. Franzen says in connection with the use of the tests (10:27):

> Some tests may be evaluated entirely apart from economic status while others are so closely related to sociological phenomena that no score can be interpreted apart from the racial and economic status of the group which is measured.

However, if the tests are used to analyze pupil knowledge for the purpose of outlining health objectives, of diagnosing teaching methods, and creating interest in health problems, they make a definite contribution to the school health program. Therefore, each test given is reproduced in tabular form to present the number and percentage of correct responses on various specific health items. The results in tabular form are found in Appendix C , pages 227 through 245.

The tests used were three of Franzen's battery of five tests. They are: True-False Test, Matching Test, and Story Test. The tests of the battery which were not used are: Five Rules Test and Time Test. The first three tests make discriminations in individual health knowledge and,

therefore, can be used for purposes of analysis. The latter tests make distinctions among groups of children and are used for comparisons based upon sociological differences. Since the study is concerned with the amount of health knowledge within a given group for purposes of analysis, the Five Rules Test and the Time Test were eliminated. It was planned originally to use all of the tests, and all of the tests were given with a view to a different type of treatment than that appearing on this chapter. The original plan called for the organization of results for a pure statistical treatment without regard to an analysis of individual pupil needs. The present plan is more in harmony with the purpose of the study.

The purpose of the testing program, as has been stated, is to determine the amount of health information the average sixth grade Stowe pupil possesses. In the True-False Test the correct response can only be made by indicating that the statements are either true or false. A more difficult process in the Matching and Story Tests was used to determine how well pupils could recognize and select good or bad health behavior in a variety of situations. The tests are essentially informational in nature but demand the ability to select and judge. In the Matching Test pupils were asked to select out of a number of possible activities in one column of the page the correct activity for a given situation in another column. The Story Test contains good and bad health situations concealed in the unfolding of a series of stories. Pupils were asked to underline all that was good for health and to cross out all that was bad for health.

The tests were given during the second week of April and required five days to give. Since the classes of the sixth grade are

departmentalized, the tests were given during the period used for English. There were sections of the grade designated as fast, average, and slow. Therefore, one test was given each day. The teacher remained in the room to assist in passing materials and guarding against any pupil opening or turning his test paper until the signal was given to start. Free use was made of the blackboard in giving instructions and every precaution taken to see that the pupils understood what they were to do. The order in which the tests were given and the time allowance are as follows:

Five Rules Test, four minutes; Story Test, thirty minutes; Time Test, eight minutes; Matching Test, thirty minutes; True-False Test, twenty-five minutes (10:32).

The results of the testing program showed the loss of many scores due to absence and the fact that some pupils either marked all of the items on the test right or all of them wrong. The use of the tests as originally planned made it necessary for each pupil to have a score on each of the five tests. The total number of pupils who had a complete set of scores was 104, a loss of forty-two scores. The reorganization of the results for analytic purposes, different from the original organization, still left a total of 104 scores for each test.

Table XXVII contains the statistical treatment of the scores on the three tests. Pupils did better on the True-False Test than either the Matching or the Story Test and did better on both the True-False and Matching Tests than on the Story Test. Probably the low scores on the Story Test are due to reading difficulty and situations in the stories foreign to the average Stowe School pupil.

TABLE XXVII

CERTAIN MEASURES OF CENTRAL TENDENCY AND VARIABILITY DERIVED FROM THE APPLICATION OF THREE HEALTH EDUCATION TESTS TO 104 SIXTH GRADE STOWE SCHOOL PUPILS

Test	Highest possible score	Range of scores	Median score	Average score	Standard deviation
True-False Test...	92	20-75	57.25	57.6	11.1
Matching Test	65	10-55	38.2	37.4	6.7
Story Test	110	5-85	34.7	38.94	17.3

How the group answered each item on the three tests is shown in Tables I, II, III in Appendix C, page 228. The subject matter divisions of the True-False Test are those suggested by Franzen (10:15). The classification of the items presents a picture of pupil knowledge on foods, sunshine and air, and the like. There may be some overlapping but the attempt has been to classify the items as nearly as possible, into their appropriate subject matter divisions. The items on which the greatest number of pupils gave the correct response dealt with principles of psychology. The reporting of the results of the Matching Test does not follow the same plan as that of the True-False Test. The test is in the form of nine sets of matching questions. It was quite important to know whether pupils were able to determine what items in the left column had no matching statement in the right column. If pupils were able to determine that an item had no matching statement, the response was correct, but no credit was given. If not, the response was wrong and credited against the

total score. The Story Test results are found in Table III Appendix C , page 242. Facts that the pupils had picked out quite readily in the True-False Test and Matching Tests were not easily recognized in the Story Test.

Evaluation of the Program

The fundamental problem of the health instruction in Stowe School is one of organization. Although the fact was evident at the beginning of the study, a comparison of the actual conditions with health instructional standards brought to light specific weaknesses which offer opportunities for improvement.

Of the many aspects of the problem of organization, the lack of a curriculum, planned jointly by experts and teachers, is probably the most important. The teaching of health in Stowe School is irregular because there is no orderly plan by which to guide the teaching. However, the school does have the facilities and the essential health activities to furnish an abundance of instructional materials for the classroom. The evidence of the last two chapters supports this view. Pupil needs, as shown by the poor home conditions in Tables XXIII, XXIV, XXV, and XXVI indicate that some source of continuous, orderly health instruction is almost mandatory. Finally, the teachers themselves exhibit a high degree of awareness of the health conditions surrounding the average pupil. This awareness is shown, in Tables I, II, and III in Appendix C , pages 229 - 241. The failure of the present plan of organization to supply teachers with facts discovered in the routine health examination and follow-up handicaps the teacher.

Classroom instruction, consequently, becomes superficial and unrelated to the actual pupil needs. It would seem, therefore, that all of the essential factors of a good curriculum are present in: (1) good facilities and a wide variety of activities to carry on a health program; (2) pupil needs as expressed in poor home conditions and a prevalence of disease; (3) a consciousness on the part of the teacher relative to the actual conditions; and (4) opportunities for making health instruction a vital classroom experience. Direction of effort appears to be the one necessary factor for the establishment of a curriculum suitable for Stowe School.

The suggested reorganization in Chapter IV relative to the appointment of the nurse as health coordinator need not be confined to health service activities alone. The very nature of the nurse's function makes it imperative that she have a very definite influence upon the classroom instruction. It is assumed that subsequent to her appointment as coordinator of health activities her courses in education will supply her with the viewpoint of the school. A further assumption is that she will literally "sell" the program to administrators and teachers alike. Her first step in establishing a school curriculum would be the organization of a committee of teachers representative of all grades and special activities in the school for the purpose of discussing and deciding upon the health objectives of the entire school. Expert advice could be sought from the University of Cincinnati, the Director of Physical and Health Education in the city schools, and other sources of which Cincinnati abounds. Once these general objectives are recorded and approved by some expert in the field, there should be a dissolving of the one large committee into sub-committees, the members of each to be teaching on the same grade level.

It would be the duty of these committees to organize objectives on their various grade levels and suggest pupil activities to attain the objectives. The report of each sub-committee to the general committee, which meets at stated intervals, would reflect wide reading and the advice of persons recognized as experts in the field.

The beginnings of the curriculum would be modest, and observable results might not be apparent for a long period of time. The experience and the interchange of ideas, however, would produce growth in both the teachers and the nurse, and the ultimate result of the cooperation would be the improvement of classroom instruction.

Recommendations in Health Instruction

It is, therefore, recommended that:

1. The nurse in her nurse in her new position of coordinator or health activities take the initiative in gradually organizing and establishing a health curriculum in Stowe School.
2. The first step in the establishment of the curriculum be the organization of a general committee, the members of which will represent each grade, and special activity of the school, for the purpose of establishing objectives in health for the entire school.
3. The second step of the organization be the dissolving of the large committee into sub-committees, the members of which will be teachers on the same grade level. These committees will organize the objectives for their respective grades and suggest pupil activities for the attainment of the objectives.
4. In the formulation of objectives and the planning of activities the advice of experts be sought.

5. The reports of the sub-committees be presented before the general committee for revisions and that the final draft of all objectives and suggested activity plans be mimeographed.
6. The initial plan of organization be the nucleus for revisions and growth during the ensuing years.

Summary

The technique has been validated in the final phase of the Stowe School health program in the following manner:

1. Standards have described the responsibility of the school to the pupils and to the community in the following aspects of health instruction: The curriculum, the objectives, subject matter, and methods of instruction.
2. The following survey tools did measure as objectively as possible the health instruction program of Stowe School:
   a. Interviews with Director of Health and Physical Education in City of Cincinnati.
   b. Interviews with the Stowe School staff to determine the nature, scope, and content of the curriculum.
   c. Observation during class visits to determine whether Stowe School health instruction was direct, incidental, popular, or a combination of all three.
   d. Franzen's True-False, Matching and Story Tests to determine health awareness of sixth grade Stowe School pupils.
3. Evaluations were based upon a comparison of the data collected with the standards.
4. Recommendations were made for the improvements of this phase of the program.

CHAPTER VI

GENERAL SUMMARY

The various lines of investigation of this study have been summarized separately at the end of each chapter. It is the purpose of this chapter to present a general overview of the entire study in the following order: (1) Organization of the study; (2) the development of the proposed technique; and (3) the validation of the technique.

Organization of the Study

The following outline summarizes the general organization of the study:

1. The major problem of this investigation is to devise a technique for the appraisal of the health program of a large elementary school. Subsidiary problems related in the main to the Stowe School situation in which the technique was to be validated may be stated in the following questions:
   a. What are the responsibilities of an elementary school in matters of health to pupils and to the community in general in such a district as the West End District of Cincinnati?
   b. What constitutes a good modern health program in such a school?
   c. Can the present health program of Stowe School be determined, be measured objectively, and be compared to existing standards?
   d. Should the present program be improved? If so, how?

e. What are the best recommendations for improvement from an ideal point of view?

f. What are the best recommendations from a practical point of view?

2. The significance of the study lies in the educational value of an appraisal technique which presents an integrated picture of a given health program in terms of an ideal modern school health program. A survey of the literature reveals that many investigators have devised separate tests and appraisal instruments for the evaluation of separate phases of the school health program. No attempt, however, has been made to weld validated tests, rating scales, and original questionnaire into a technique which can be applied as a unit to the various phases of a school health program for purposes of evaluation. Therein lies the unique contribution of the present study.

3. The most important outcome of this investigation is a technique which will appraise the health program of a large elementary school in terms of the needs of its pupils. An outcome beyond the stated problem is the amount of interest created during the actual conduct of the investigation.

The Development of the Proposed Technique

The following summary outlines the development of the proposed technique:

1. Detailed study of the various phases of an integrated school health program indicates that effective appraisal of the program should

follow these four general steps:

(1) Selection of standards that describe an ideal program and serve as a basis of comparison;

(2) Designation of the methods of collecting facts that give a true picture of the health program in any given school;

(3) Evaluation of the collected facts in terms of accepted standards;

(4) Deduction of recommendations for improvement of the program as a result of the evaluation.

The first step consists of the selection of standards that represent the best thought of experts. Standards for the various phases of the program may be found in current literature of the field. Careful selection of these statements presents a total picture of an ideal program and serves as a model for comparison. The ideal program is essentially theoretical in nature, for it is an expression of the best accepted health education philosophy. The fact that new research and social conditions will provide new standards in the repeated use of the technique is evidence of its ability not to be outmoded. This study includes in each chapter standards for the component fields of healthful school living, health service, and health instruction.

The second step consists of designating means of describing the actual health program as it operates in any selected school. Such facts can be ascertained only through a series of surveys, interviews, questionnaires, and investigations. Some reliable data collecting devices

are described in the literature of the field and have been successfully employed to evaluate separate parts of the program. At the present time there has been no recorded attempt to consider the health program as a whole, and to list a battery of tests for all its parts. This study proposed the selection of existing data gathering devices and the addition of original means which will give a total picture of the health program under evaluation. The devices are listed below in that phase of the program in which they were used:

A. Healthful School Living:

1. The Strayer-Englehardt Rating Score Card for Elementary School Buildings.
2. An original questionnaire to the teachers.
3. Interviews with parents of children with uncorrected defects.
4. Interviews with staff members and contacts with outside organizations which have aided in the correction of defects.
5. Observations through contact with the situation.

B. Health Service:

1. The Franzen Teacher Health Procedure Test.
2. The Franzen School Health Procedure Test.
3. Interviews with parents of children with uncorrected defects.
4. Interviews with staff members and contacts with outside organizations which have aided in the correction of defects.
5. Observations through contact with the situation.

C. Health Instruction:

1. Interviews with staff members.
2. Observation of class routine through class visits.

3. Franzen's battery of five health education tests: The True-False, Matching, Story, Time, and Five Rules Tests.

The third step consists of evaluating the data of the selected school in terms of the standards established in the ideal program. The evaluation is based upon a careful consideration of the most practical means of rearranging the program of the selected school to meet as nearly as possible, the standards of the ideal program. Furthermore, the study proposed that where rearrangements are necessary in a certain phase of the program they must be made with a view of their possible value to other phases of the program.

The final step consists of presenting the rearrangements in the form of recommendations.

The Validation of the Technique

Proof of the validation of the proposed technique for appraising the health program of a large elementary school is found in its application to an actual situation. The bad social conditions comfronting the Harriet Beecher Stowe Elementary School of Cincinnati, Ohio, provided a situation ideally suited to test every feature of the proposed technique. Complete validation is in evidence by the manner in which the technique met the demands of the subsidiary problems related to any elementary school of which Stowe School is typical. Each step of the technique and its relationship to the subsidiary problems are given below:

1. The limits of the ideal modern school health program were established by definitions provided by one of the most outstanding authorities in the field of health education. This highly theoretical program

in the form of standards successfully pointed out the responsibility of the school to pupils and the community in regards to healthful school living, health service, and health instruction. Furthermore, it determined what was to be surveyed in a selected school situation and served as a criterion with which to compare the conditions of a selected school health program.

2. The data-gathering devices were well adapted to measure objectively the phases of the Stowe School health program they were intended to measure. Where there were no available measureing devices, original questionnaires and interviews were used to describe as accurately as possible the Stowe School situation. Evidence of the effectiveness of the measuring devices is found in the wide range of detailed facts brought to light in each phase of the program.
3. The comparison of the data collected at Stowe School to the standards of the ideal program was basic in determining just what practical recommendations could be made to improve the program.
4. The deductions which were the result of the evaluations are evident in the range of recommendations made in the health environment, the health service, and the health instruction of Stowe School.

Other significant outcomes beyond the stated subsidiary problems were revealed in the validation of the technique. They are as follows:

1. The technique is unique in that a whole program is described within the limits of one study by the use of a single method of procedure.
2. The technique is flexible in that it may be applied with equal ease to varying aspects of a school health program.
3. The technique is exhaustive in the appraisal of each phase of a given health program, and as a consequence, is applicable to any elementary school health program.

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APPENDIX A

Data-Gathering Forms in Healthful School Living

Form A: The Strayer-Englehardt Score Card for Elementary Schools: City Score Card.

Form B: The Strayer-Englehardt Score Card for Elementary Schools: Rating Scale.

Form C: Original Questionnaire to Teachers on Healthful School Living.

Form A

The Strayer-Englehardt Score Card for Elementary School Buildings: City Score Card

ty Score Card 1920

THE STRAYER-ENGLEHARDT SCORE CARD FOR ELEMENTARY SCHOOL BUILDINGS

Published by Bureau of Publications, Teachers College, Columbia University, New York City

The score card may be utilized in judging existing school buildings and grounds or in rating the plans of proposed school buildings. A distinct advantage accrues from the use of the score card in that it fixes attention upon all the details of the building. The total score is the composite of the scores on all the individual items. The score card should only be used in conjunction with the bulletin which outlines the building standards which have been determined upon by the authors. The score on any sub-division is based on conditions found as contrasted with these standards. The score card may be used in making building surveys of school systems or as a filing record.

me of School _____ City _____ State _____

te _____ Scorer _____

ENROLLMENT FOR A 5-YEAR PERIOD					AVERAGE DAILY ATTENDANCE FOR A 5-YEAR PERIOD				
ar									
ys									
rls									
tal									

	Original	First Addition	Second Addition	Total
st of Land & Grading	$	$	$	$
ngth of Site	Ft.	Ft.	Ft.	Ft.
dth of Site	ft.	ft.	ft.	ft.
ea of Site	sq.ft.	sq.ft.	sq.ft.	sq.ft.
st of Building Construction	$	$	$	$
st of Furniture & Equipment	$	$	$	$
st of Architect's Fees	$	$	$	$
ar of Construction				
ngth of Building	ft.	ft.	ft.	ft.
dth of Building	ft.	ft.	ft.	ft.
ea occupied by Building	sq.ft.	sq.ft	sq.ft.	sq.ft.
bitute of Building	cu.ft.	cu.ft.	cu.ft.	cu.ft.
st per Cubic Foot	$	$	$	$
ief Material Used				
mber of Stories				
pe of Building				
of				
ngth of Playground	ft.	ft.	ft.	ft.
dth of Playground	ft.	ft.	ft.	ft.
ea of Playground	sq.ft.	sq.ft.	sq.ft.	sq.ft.
ayground Area per Child A.D.A.	sq.ft.	sq.ft.	sq.ft.	sq.ft.

CESSIBILITY: Percentage of patrons residing within 1 mile radius _____

om 1-2 mile radius _____ From 2-3 mile radius _____ Above 3 miles from school _____

rcentage of Site Used For:

wns & Landscapes	Buildings	Recreation	Gardening	Total
%	%	%	%	%

me the kinds of playground apparatus and number of each _____

st the attractive features of the environment _____

e unattractive and unsanitary features _____

TRANCES: Number of _____ Type _____ Condition _____

Form A City Score Card-2

NUMBER OF ROOMS FACING:

S.E. EAST	S.W. WEST	SOUTH	N.E.	NORTH	N.W.	TOTAL

GROSS STRUCTURE:

Foundation Walls Doors Open Condition

Stairways	No.	Fire-proof	Materials	Height of Riser	Width of Tread	Length of Treads	No. of Treads	No. of Hand rails	Maximum Capacity of:
Basement									Basement
Second Floor									Second Floor
Third Floor									Third Floor

What use is made of basement?

Distance from basement floor to ground level ft. Is roof-space provided?

How used?

Corridors	Width	Length	Natural light	Artificial light	Used as Cloakrooms	Obstructive	Color Scheme
Basement							
First Floor							
Second Floor							
Third Floor							

Check kind of Heating System: Hot air furnace Steam boiler Hot water boiler

Is it reported satisfactory By whom List the rooms which cannot be satisfactorily heated

What are the causes of unsatisfactory heating?

Is thermostatic control provided Date of last official boiler inspection

Check kind of Ventilating System: Natural circulation Window ventilators

Gravity system without exhaust accelerators Gravity system with exhaust accelerators

Mechanically furnished fresh air supply Mechanical exhaust of four air Is the system reported satisfactory By whom

List the rooms not satisfactorily ventilated

Distance of cold-air inlet from ground Date of last cleaning of plenum chamber - Condition

Fire Protection: List the rooms in which any of the following fire apparatus is found:

Fire extinguishers Date of last filling

Fire hose Automatic sprinkler

Is building fireproof Basement isolated from first floor

Basement ceiling fireproof

Heating apparatus in fireproof enclosure

Combustible and inflammable material stored in building

Date: of last 5 fire drills

Time required to empty building

Are outer doors locked during school hours

Fire alarm system: Automatic , special signal , gong

Special fire exits How indicated

Fire escapes: open , enclosed tower , location

No. of exits in building No. of exits with panic bolts

Has basement an outside exit List the important location where doors open inward

Janitor's Service: Does janitor remain on premises during school hours

Method of cleaning: Dry sweeping Vacuum cleaner Frequency of mopping

Sweeping compound used Oiled Floors Frequency of cleaning

Before school hours After school hours During School hours How long before or after Dusting Dry cloth

Oiled cloth Not at all What evidences of efficient service prevail

Form A City Score Card -3

Check type of Artificial Lighting System used: Gas_____ Electricity_____ Check whether lighting is direct_____ Indirect_____ or semi-indirect_____ Number of electric outlets in classrooms_____ In corridors_____ Is artificial light provided in toilets_____ Adequacy_____ In what necessary places is artificial light not provided?_____

Electric Service? Telephone_____ Bells_____

Water Supply: Name locations of drinking fountains_____

Are these fountains sanitary?_____ In good operating condition_____ Number of washbowls_____ Location_____ Soap provided_____ Towels_____ Kind_____

Hot Water_____ Baths_____ Kind_____ Location_____

Date of last scientific testing of water supply_____ Results_____

Toilet Systems: List location of boys' toilets_____

List location of girls' toilets_____

Sanitary condition_____ No. of boys' toilet seats_____ Urinals_____

No. of girls' toilet seats_____ Toilet provisions for teachers_____

Janitor_____ Arrangement_____ Type of seats_____

Arrangement_____ Type of Urinals_____

Arrangement_____ Seclusion_____

NAME OF ROOM OR PART OF BUILDING	REPAIRS NEEDED

Form A

DETAILS OF THE CLASSROOMS

1.	Room No.														
2.	Grade														
3.	Pupil capacity														
4.	Pupil enrollment														
5.	Dimensions Length, ft.														
6.	Width, ft.														
7.	Height, ft.														
8.	Floor area, sq.ft.														
9.	Area per child of pupil capacity sq.ft														
10.	Area per child of enrollment														
11.	Area per child, with 40 in class														
12.	Total cubical contents, cu. ft.														
13.	Cu. ft. per child of pupil capacity														
14.	Cu. ft. per child of enrollment														
15.	Cu. ft. per child with 40 in class														
16.	No. of windows on front.....														
17.	left.....														
18.	rear.....														
19.	right.....														
20.	No. of windows size x.....														
21.	x.....														
22.	x.....														
23.	x.....														
24.	Window glass area-sq. ft.														
25.	Ratio of window area to floor area														
26.	Width of millions - inches														
27.	Distance - first window to front wall														
28.	Height of windows from floor														
29.	Height of windows from desk tops														
30.	Distance - window top to ceiling														
31.	Clock														
32.	No. of adjustable desks														
33.	No. of non-adjustable desks														
34.	No. of sizes of non-adjustable desks														
35.	No. of electrical outlets														
36.	No. of gas outlets														
37.	Finish of walls														
38.	Color of walls														
39.	Type of blackboards														
40.	Height of blackboards from floor														
41.	Window shades - type														
	color														
42.	Book closet														

Had seats been adjusted_____ When last done_____

Were shades being properly used_____

Other equipment of classrooms_____

Cloakrooms: Accessibility_____ Equipment_____

Adequacy_____ Control_____

Special rooms: Kind and adequacy_____

Form B

The Strayer-Englehardt Score Card for Elementary School Buildings: Rating Scale

	1		2		3	
I. Mechanical Service Systems	3		3			
J. Locker Service			15			
1. Home Lockers	5					
2. Gymnasium Lockers	5					
3. Lockers for Special Classrooms	3					
4. For Teachers and Staff Workers	2					
K. Laundry Service	2		2			
L. Storage Service			20			
1. Custodial Storerooms	1					
2. School Supply Storage	1					
3. Educational Equipment Storage	1					
4. Book Storage	1					
5. Storage for Instructional Rooms	2					
6. Storage—Aural-Visual Materials	1					
7. Gymnasium Storage	1					
8. Auditorium Storage	2					
9. Receiving and Shipping Room	1					
10. Fuel Storage	2					
11. Custodian's Work Shop	1					
12. Storage for Non-Teaching Staff	1					
13. Bicycle Storage	2					
14. Parking Space	2					
15. Out-of-Doors Service Storage	1					
IV. GENERAL CLASSROOMS					205	
A. Location and Connection	35		35			
B. Construction and Finish			90			
1. Size and Utilization	25					
2. Sufficiency	10					
3. Floors	10					
4. Walls and Ceilings	10					
5. Doors	5					
6. Built-in-Equipment	10					
7. Chalk Boards	5					
8. Bulletin Boards	5					
9. Color Scheme	10					
C. Illumination			40			

	1		2		3	
D. Library	30		30			
E. Music Room	10		10			
F. Science and Nature Study Rooms	10		10			
G. Other Rooms	10		10			
VII. GENERAL SERVICE ROOMS					125	
A. Auditorium or Assembly Room			50			
1. Purpose	5					
2. Orientation and Location	5					
3. Size	10					
4. Construction and Finish	5					
5. Stage	5					
6. Stage Dressing Rooms	3					
7. Property Room	2					
8. Artificial Lighting	4					
9. Heating and Ventilating	4					
10. General Equipment	4					
11. Audio-Visual Equipment	3					
B. Gymnasium			25			
1. Location	5					
2. Size	10					
3. Construction and Finish	5					
4. Gymnasium Service Rooms	3					
5. Seating Arrangements	2					
C. Play Rooms or Shelters	10		10			
D. Swimming Pool	10		10			
E. Cafeteria or Lunch Room			30			
1. Location	5					
2. Size	10					
3. Construction and Finish	5					
4. Equipment	3					
5. Kitchen	5					
6. Faculty Lunch Room	2					
VIII. ADMINISTRATION ROOMS					60	
A. Administration Offices			25			
1. Principal's Private Office	5					
2. Assistant Principal's Office	5					
3. General Office	5					

3. Educational Equipment Storage	1					
4. Book Storage	1					
5. Storage for Instructional Rooms	2					
6. Storage—Aural-Visual Materials	1					
7. Gymnasium Storage	1					
8. Auditorium Storage	2					
9. Receiving and Shipping Room	1					
10. Fuel Storage	2					
11. Custodian's Work Shop	1					
12. Storage for Non-Teaching Staff	1					
13. Bicycle Storage	2					
14. Parking Space	2					
15. Out-of-Doors Service Storage	1					
IV. GENERAL CLASSROOMS					205	
A. Location and Connection	35		35			
B. Construction and Finish			90			
1. Size and Utilization	25					
2. Sufficiency	10					
3. Floors	10					
4. Walls and Ceilings	10					
5. Doors	5					
6. Built-in-Equipment	10					
7. Chalk Boards	5					
8. Bulletin Boards	5					
9. Color Scheme	10					
C. Illumination			40			
1. Glass Area	15					
2. Windows	15					
3. Shades and Curtains	10					
D. Movable Equipment			40			
1. Seats and Desks	20					

6. Stage Dressing Rooms	3					
7. Property Room	2					
8. Artificial Lighting	4					
9. Heating and Ventilating	4					
10. General Equipment	4					
11. Audio-Visual Equipment	3					
B. Gymnasium				25		
1. Location	5					
2. Size	10					
3. Construction and Finish	5					
4. Gymnasium Service Rooms	3					
5. Seating Arrangements	2					
C. Play Rooms or Shelters	10			10		
D. Swimming Pool	10			10		
E. Cafeteria or Lunch Room				30		
1. Location	5					
2. Size	10					
3. Construction and Finish	5					
4. Equipment	3					
5. Kitchen	5					
6. Faculty Lunch Room	2					
VIII. ADMINISTRATION ROOMS					60	
A. Administration Offices				25		
1. Principal's Private Office	5					
2. Assistant Principal's Office	5					
3. General Office	5					
4. Reception Room	2					
5. Attendance Office	3					
6. Conference Room	2					
7. Other Administrative Offices	3					
B. Teachers' Rooms				10		

13. Bicycle Storage	2					
14. Parking Space	2					
15. Out-of-Doors Service Storage	1					
IV. GENERAL CLASSROOMS					205	
A. Location and Connection	35		35			
B. Construction and Finish			90			
1. Size and Utilization	25					
2. Sufficiency	10					
3. Floors	10					
4. Walls and Ceilings	10					
5. Doors	5					
6. Built-in-Equipment	10					
7. Chalk Boards	5					
8. Bulletin Boards	5					
9. Color Scheme	10					
C. Illumination			40			
1. Glass Area	15					
2. Windows	15					
3. Shades and Curtains	10					
D. Movable Equipment			40			
1. Seats and Desks	20					
2. Teachers' Desks	5					
3. Other Equipment	15					
V. KINDERGARTEN			35		35	
1. Location and Connection	5					
2. Size and Shape	10					
3. Construction and Finish	5					
4. Cloakroom and Toilets	5					
5. Illumination	5					
6. Equipment and Storage	5					
VI. SPECIAL ACTIVITY ROOMS					90	
A. Art Room	10		10			
4. Gymnasium Service Rooms	3					
5. Seating Arrangements	2					
C. Play Rooms or Shelters	10		10			
D. Swimming Pool	10		10			
E. Cafeteria or Lunch Room			30			
1. Location	5					
2. Size	10					
3. Construction and Finish	5					
4. Equipment	3					
5. Kitchen	5					
6. Faculty Lunch Room	2					
VIII. ADMINISTRATION ROOMS					60	
A. Administration Offices			25			
1. Principal's Private Office	5					
2. Assistant Principal's Office	5					
3. General Office	5					
4. Reception Room	2					
5. Attendance Office	3					
6. Conference Room	2					
7. Other Administrative Offices	3					
B. Teachers' Rooms			10			
1. Women's Rest Room	7					
2. Men's Retiring Rooms	3					
C. Health Service Rooms			15			
1. Medical Clinic	5					
2. Nurse's Room	4					
3. Dental Clinic	4					
4. Other Health Service Rooms	2					
D. Custodial Service Rooms			10			
1. Head Custodian's Office	3					
2. Engineer's Room	3					
3. Janitors	2					

score. "Not needed" is understood to mean [illegible] tion and not of the local program. (4) Buildings should be scored as they were planned, not as they are being used. That is, if a room planned for storage is being used as a teacher's lunch room, it should be scored as storage. (5) Fractions should not be resorted to in scoring.

	1	2	3
I. SITE			100
A. SELECTION	15	15	
B. LOCATION		30	
1. Determination	10		
2. Accessibility	10		
3. Environment	10		
C. TOPOGRAPHY		20	
1. Elevation	5		
2. Soil and Subsoil	5		
3. Natural Features	5		
4. Landscaping and Upkeep	5		
D. PROVISIONS FOR USE		35	
1. Size and Form	15		
2. Roads, Approaches, and Parking	5		
3. Play Courts and Play Fields	10		
4. School Gardens	5		
II. BUILDING			160
A. PLACEMENT		20	
1. Position on Site	10		
2. Orientation	10		
B. GROSS STRUCTURE		90	
1. Style of Architecture	5		
2. Plan Type	10		
3. Construction Types	10		
4. Height	5		
5. Foundations	10		
6. Walls	10		
7. Roof	5		
8. Entrances	5		
9. Fenestration	5		
10. Utilization	10		
11. Aesthetic Balance	5		
12. Acoustics	5		
13. Condition	5		
C. INTERNAL STRUCTURE		50	
1. Corridors	15		
2. Stairways and Ramps	15		
3. Color Scheme	10		

	1	2	3
3. Air Supply	5		
4. Fans and Motors	5		
5. Distribution	5		
6. Temperature Control	5		
7. Special Provisions	5		
B. FIRE PROTECTION SYSTEM		30	
1. Fire Resistance	15		
2. Exits and Fire Escapes	5		
3. Apparatus	3		
4. Electric Wiring	2		
5. Fire Doors and Partitions	3		
6. Exit Lights and Signs	2		
C. CLEANING SYSTEM		15	
1. Kind	5		
2. Installation	5		
3. Efficiency	5		
D. ARTIFICIAL LIGHTING SYSTEM		20	
1. Electric Lighting	5		
2. Light Sources and Intensities	3		
3. Switches and Switchboards	3		
4. Outlets and Adjustments	3		
5. Method of Illumination	3		
6. Maintenance and Inspection	3		
E. ELECTRIC SERVICE SYSTEM		10	
1. Clocks	3		
2. Telephones	2		
3. Fire Alarm System	2		
4. Call System	2		
5. Electric Power Supply	1		
F. ELECTRICAL TEACHING AIDS		10	
1. Audio-Visual Equipment	5		
2. Radio Equipment	5		
G. WATER SUPPLY SYSTEM		20	
1. Drinking Fountains	5		
2. Lavatories	5		
3. Sinks	5		
4. Bathing Facilities	5		
H. TOILET SYSTEM		30	
1. Distribution and Arrangement	5		
2. Fixtures	5		
3. Adequacy	5		
4. Seclusion	5		

Form C

Original Questionnaire to Teachers on Healthful School Living

STRAYER-ENGELHARDT SCORE CARD FOR ELEMENTARY SCHOOL BUILDINGS

Revision of 1933

Form B

BY GEORGE D. STRAYER AND N. L. ENGELHARDT

1. What has been the nature of the individual problems of the children in your room during the present school year? Check the problems which have appeared and indicate beside the check the number of pupils who presented the problem.

Smoking	Disorderliness
Depressed, unhappy	Sulky, refusing to join in
Talkative	Stealing
Resentful	Tempertantrums
Profane	Obscene notes, pictures
Lying	Impudence, impertinence
Shy, withdrawing	Disobedience
Cruelty	Others

2. Rate in your opinion and in the order of their seriousness, the proolems you have checked. (Rating;- (1) most serious; (2) serious, but not as serious as 1, etc.)

Unsocial	Disorderliness
Smoking	Stealing
Depressed, unhappy	Temper tantrums
Talkative	Obscene notes, pictures
Resentful	Impudence, impertinence
Profane	Disobedience
Lying	Cruelty, fighting

3. If you have found any of the following methods effective at Stowe School in dealing with children's problems, rate them as to effectiveness; (Rating; (1) most effective; (2) effective, but not as effective as (1), etc.

Remaining after school	Denying privilege of participation in recreation activities
Standing in cloakroom (usual number of minutes)	More school work
Class projects	Giving leadership responsibilities

Whipping	Sarcastic remarks
Denying privilege of being excused	Personal guidance in school work by teacher
Home Visits	Sending to office
Standing in corner (usual number of minutes)	Conducting of varied activity program
Placing shy child in care of assertive pupil	Refer to psychologist

4. List any other methods you have found effective in the present situation

5. For what offenses do you punish?

Sulky, refusing to join in	Disorderliness
Smoking	Stealing
Talking	Temper, tantrums
Resentful	Obscene notes, pictures
Profanity	Impertinence
Lying	Disobedience
Fighting	Others

6. How many cases of corporal punishment have you had in you class this week? No.*_____

7. How many times has the worst offender been whipped in the last month? No._____

8. When you are giving individual attention to one pupil or a group of pupils in some subject, e.g., reading or arithmetic, what is the rest of the class doing?

Doing advanced work	Anything they like
Keeping silent	Playing games
Working on a class project	Others

9. How many class projects in which every child has had a definite part to play have you had in Arithmetic in the past three months? No._____ In Language? No._____ In Spelling? No._____

10. How many "naturally bad" children do you have in your class this year? No._____

11. Are there any behavior problems arising from over-aged, over-grown, or retarded pupils? Yes. No. No._____

12. Do you feel that any of your behavior problems arise from a non-cooperative attitude on the part of the parents, i.e., "egging" the children to assume an insolent attitude? Yes. No. No._____

13. Have you ever had occasion to make a personal investigation of the homes of children presenting behavior problems? Yes. No. How many? No._____

14. How many pupils in your class this year with reading difficulties? No._____ Spelling? No._____ Arithmetic? No._____

II PLAY

1. During recess periods do you accompany your pupils to the play area? Yes. No.

2. How many such periods do you have a day?
(Primary grades)
(Intermediate grades)

3. Do you supervise the play period of your children each day?

Other Duties

What are they?

4. During inclement weather where do the children play?

5. What types of games are played indoors?

Outdoors?

VI FATIGUE

1. How many cases of sleeping in class have you had in the past weeks? No._____ How many of these constitute problems of habitual sleeping? No._____?

2. Have these children been referred to the nurse? Yes. No.

3. How many children have you referred this year to the nurse because of fatigue? No._____

APPENDIX B

Data-Gathering Forms in Health Service

Form D: The Franzen Teacher Health Procedure Test

Form E: The Franzen School Health Procedure Test

Form F: Original Blank for Home Interviews

Form G: Home Interview Recording Sheet

Form D

Franzen Teacher Health Procedure Test

Form D

TEACHER HEALTH PROCEDURE TEST

TEST A

These questions are to be asked the teacher in an interview. The correct response is given in parenthesis after each question. Discussion with the teacher should be carried far enough to give the examiner a clear indication that the teacher has had the experience involved. The score of the teacher is the number of correct responses made.

1. Did the nurse discuss with you how to persuade children to improve habits of cleanliness?
   Name one child so discussed.
   What was the specific problem?
   (Teacher can state specific case)
2. Did you discuss with the nurse the prevention of cavities in teeth?
   What points did she emphasize with you?
   (Teacher can state the points discussed by nurse)
3. Did the nurse ever discuss with you the relative frequency of cavities in particular teeth such as molars, incisors, canines, etc.?
   (Evidence of such discussion)
4. Did the nurse talk with you about what to do in an outbreak of measles?
   What did she suggest?
   (Teacher can give a suggestion made by the nurse)
5. How is it made sure that children newly fitted with glasses have reexamination at the proper time?
   Do you keep track of this?
   (There is a method of follow up)
6. What advice has the nurse given you regarding running eyes?
   (Evidence that nurse gave any advice)
7. What advice has the nurse given you regarding running nose?
   (Evidence that nurse gave any advice)
8. What advice has the nurse given you regarding pink eye?
   (Evidence that nurse gave any advice)
9. What advice has the nurse given you regarding inflamed eyes?
   (Evidence that nurse gave any advice)
10. What health project, aside from that relating to diet or communicable disease, did the nurse suggest for your class?
    (Teacher can name a project)
11. Did the dental hygienist discuss the method of brushing the teeth?
    What did she say about it?
    How important did she think it?
    (Dental hygienist has discussed it and mentioned its unimportance relative to other factors)

Form D

12. Did the dental hygienist ever discuss with you the gingival (gum) condition in any of your pupils?
(Teacher gives evidence of some discussion with her)

13. Did the dental hygienist explain to you the seriousness of neglect of any particular teeth such as molars, bicuspids, canines, incisors, etc.?
(Teacher gives evidence of some discussion with her)

14. Did the dental hygienist ever discuss with you tartar or stain on your pupil's teeth?
Prevention? Removal?
(Teacher gives evidence that both of these factors have been discussed)

15. Did the dental hygienist explain to you the relationship of diet to caries?
(Teacher gives evidence of such discussion)

16. Did the dental hygienist explain the relation of milk to caries? What relationship?
(Teacher can give the relationship that the nurse told her)

17. Did the dental hygienist give you any charts or posters? Which? On what topic?
(Teacher can show posters or can name the topic)

Form B

TEST B

These questions are to be asked the teacher in an interview. The correct response is given in parenthesis after each question. Discussion with the teacher should be carried far enough to give the examiner a clear indication that the teacher has had the experience involved. The score of the teacher is the number of correct responses made.

1. Name one pupil in whom you discovered running nose.
(Teacher can name a child or can give evidence to show that there was none to discover.

2. Name one pupil in whom you discovered shortness of breath.
(Teacher can name a child or can give evidence to show that there was none to discover.

3. Name one pupil whom on your own initiative you referred for exclusion because of headache and fever.
(Teacher can name a child or can give evidence to show that there was none.)

4. Name one pupil whom on your own initiative you referred for exclusion because of sore throat.
(Teacher can name a child or can give evidence to show that there was none)

5. Name one pupil whom on your own initiative you referred for exclusion because of persistent cough.
(Teacher can name a child or can give evidence to show that there was none.)

6. Name one pupil you referred to the nurse because of absence about two days at a time about three times a month.
What was the reason for the absence?
(Teacher can name a child or can give evidence to show that there was none)

7. Name one child at whose house the nurse made a follow-up call during the last five school months for defective vision.
(Teacher can name a child)

8. Name one child at whose house the nurse made a follow-up call during the last five school months for malnutrition.
(Teacher can name a child)

9. Name one child at whose house the nurse made a follow-up call during the last five school months for defective heart or defective hearing or nervious condition or crippled condition.
(Teacher can name a child)

10. Name one child who had medical attention for heart defect, or nervous condition, or hearing defect or crippled condition. What defect?
(Teacher can name child.)

11. Name one child who during the last five school months had tonsils removed.
(Teacher can name a child)

Form D

TEST B # 2

12. How was the nurse informed whether each case of tonsils received treatment?
(Teacher volunteers information that she informs nurse)

13. Did you report to the nurse those children who received operation for tonsils? (Teacher reports to nurse)

14. Did you keep a record of individual illnesses?
Of what items? (Teacher can show record)

15. Was there for your class a record of all who have had measles, kept up to date for current use?
Where was it kept? Who made the record? What items were included? (Teacher is sure such a record was kept)

16. Did you at any time keep a record of tooth brushing?
(Teacher kept such a record)

17. What if any difficulty did you have in interpreting the nurse's records?
(Teacher can mention no difficulty with the records)

18. Did you keep a record of children who had defective teeth?
Did you find the record of use? How was it used?
(Teacher kept such a record)

19. Name all children who have been immunized against diphtheria. Information to be obtained from records kept very completely for special use.
What did you do to get parents' consent for immunizations?
(Teacher knew or can find out the immunized children from the records)

20. How many times did the nurse inquire of you about observations you have made, or ask you to make observations, to use when she made a home visit?
For what problems?
(Evidence that nurse inquired one or more times)

21. Do you have a printed list of health disorders that you should be on the lookout for? Where did you get it?
(Teacher has such a list)

22. When measles occurs, how often does the nurse inspect the class? (Credit if teacher makes daily inspection)

23. When scarlet fever occurs, how often does the nurse inspect the class? (Credit if teacher makes daily inspection)

24. When whooping cough occurs, how often does the nurse inspect the class? (Credit if teacher makes a daily inspection)

25. When diphtheria occurs, how often does the nurse inspect the class? (Credit if teacher makes daily inspection*

26. When a physician examined your pupils, did you take any notes on the findings of his examinations?
(Teacher took notes on examination)

TEST B # 3 Form B

27. When a physician examined your pupils did you weigh each pupil. (Teacher weighed each pupil)

28. When a physician examined your pupils did you measure height of each pupil?
(Teacher measured height of each pupil)

29. When a physician examined your pupils did you measure vision in each pupil?
(Teacher measured vision in each pupil)

30. When a physician examined your pupilsdid you measure hearing in each pupil?
(Teacher measured hearing in each pupil)

31. When a physician examined your pupils did you find standard weight for each pupil?
(Teacher found standard weight for each pupil)

32. Did the dental hygienist ever demonstrate the condition of children's mouths for you? What conditions did she point out? (Teachers remembers a demonstration and conditions pointed out)

33. Does the dental hygienist think morning inspection is important to dental hygiene?
(Teacher know that dental hygienist thinks it important)

34. How many times did the dental hygienist talk to your class during the last two or three years?
(Teacher knows dental hygienist talked at least once)

35. Did you as a policy refer to the nurse children having skin disease, toothache, cut or abrasion or health disorder needing attention? Did you refer only cases about which you were in doubt?
(Teacher refers only cases about whom she is in doubt)

36. When the nurse came to the building, how often did you find it out in time to use her? (Teacher usually found out)

37. Did the nurse ever make a classroom inspection with you?
(Teacher and nurse made a joint inspection)

38. Did the nurse ever note the seating of all children in your room to see if the seats fittedthe children?
Did she suggest changes? (Nurse inspected all seats)

39. Did the nurse ever make suggestions about ventilation of the room or discuss it with you? What suggestion?
(Teacher can name a suggestion made by nurse)

40. Did the nurse ever note children who were wearing outside wraps or overshoes or rubber boots in the classroom or discuss it with you? (Nurse discussed this problem with the teacher)

41. Have you access to a clinical thermometer at school?
Where is it kept?
(Teacher has access to the thermometer)

Item D

The following questions are to be asked the nurse. Ask the nurse to select a child from the room of the teacher being tested, at whose home she is prepared to make a visit for vision. Then ask her the questions listed below. The discussion should be carried far enough to determine that the nurse has definite information on the question raised. Score one point for each question on which the nurse has information. If there is no case on which the nurse is ready to make a home visit the score is zero unless there are no such cases in the room. The score on these questions is credited to the teacher.

1. Does the child have difficulty in seeing the blackboard?
   (Evidence that nurse has discussed condition with teacher)

2. Does the child have headaches?
   (Evidence that nurse has discussed condition with teacher)

3. Does the child have excessive lachrymation?
   (Evidence that nurse has discussed condition with teacher)

4. Does the child rub his eyes after use?
   (Evidence that nurse has discussed condition with teacher)

5. Did the child pass his grade last term?
   (Evidence that nurse has discussed condition with teacher)

6. Does he hold his book too near his face?
   (Evidence that nurse has discussed condition with teacher)

Ask the nurse to select a child from the room of the teacher being tested at whose home she is prepared to make a visit for nutrition. Then ask her the following questions:

1. Is the child (7) per cent or more below weight for height?
   (Nurse shows evidence of recent information)

2. Has the child shown any tendency to fatigue?
   (Evidence that nurse has discussed condition with teacher)

3. What does the teacher think of his posture?
   (Evidence that nurse has discussed condition with teacher)

4. Does the child show any disinclination to play?
   (Evidence that nurse has discussed condition with teacher)

5. Has the child had frequent absences for sickness?
   (Evidence that nurse has discussed condition with teacher)

6. Has the child been backward in his school work?
   (Evidence that nurse has discussed condition with teacher)

Form E

Franzen School Health Procedure Test

Form E

[illegible]

(A routine physical examination and a routine dental examination should be observed. Score one point for each of the following items that are included in:

The Physical Examination

1. Hearing tests are made individually.
2. Distance of examiner from child in hearing measurement is accurately measured.
3. The clothing is removed to the waist.
4. Inspection of spine with clothing opened.
5. Palpation of the cervical glands.
6. Posture inspection with lateral view of whole child.
7. Inspection of conjunctiva by inversion of lower lids.
8. Inspection of throat with tongue depressor.

The Dental Examination

1. A distinction is made between temporary and permanent teeth.
2. The examiner uses a probe.
3. The examiner uses a mirror.
4. Degree of malocclusion is recorded.
5. The record includes an estimate of severity of stain.
6. The dental examination is not made by the physician.

The contents of the nurse's bag are examined. Score one point for each of the following items present:

1. A clinical thermometer.
2. Printed or typed memorial on procedure.
3. Culture tubes.
4. Record forms for memorial daily record.
5. Record forms for report of communicable disease.
6. Record forms for readmission

Form E

The following questions are to be asked the nurse in an interview. The correct response is given in parenthesis after each question. Discussion with the nurse should be carried far enough to give the examiner a clear indication that the nurse has had the experience involved. The score is the number of correct responses made.

1. Did a dental hygienist, dentist, or school physician ever demonstrate caries for you?
(Nurse gives evidence that she has had such a demonstration)

2. Did a dental hygienist, dentist or school physician ever demonstrate stain on teeth for you?
(Nurse gives evidence that she has had such a demonstation)

3. Did the supervising nurse accompany you on a home visit, in the district of what school?
(Nurse gives evidence that the supervising nurse has made home visits with her on more than one occasion)

4. Did the supervising nurse accompany you on a classroom visit? In what school?
(Nurse gives evidence that the supervising nurse has made school visits with her on more than one occasion)

5. Did you ever address a group of fellow nurses?
On what topic?
(Nurse gives evidence that she has made such an address)

6. Did you ever address a group of parents? On what topic?
(Nurse gives evidence that she has made such an address)

7. Did you ever address a group of teachers? On what topic?
(Nurse gives evidence that she has made such an address)

8. What did you do with the throat cultures?
(Nurse knows what to do)

9. Have you received any special training since you entered school service? What training?
(Credit if nurse gives evidence of the equivalent of one summer session of six weeks)

10. How many hours per week do you spend weighing and measuring when the doctor is not present.
(Credit if the response is "NONE")

11. Did you ever keep a record of the distribution of your time, for a whole day or more? Show a record or results of such study.
(Credit if nurse has made such a study)

Ask the nurse to select a child at whose home she is prepared to make a visit for vision. Then ask her the questions listed below. The discussion should be carried far enough to determine that the nurse has definite information on the question asked. Score one point for each question on which the nurse has

Form E

Definite information. If there is no case on which the nurse is ready to make a home visit the score is zero. Unless there are no such cases in the school.

1. What are the child's Snellon records?
   (Nurse knows the Snellon records)
2. Has the child had blepharitis?
   (Nurse knows whether such condition has been present)
3. Has the child had conjunctivitis?
   (Nurse knows whether such condition has been present)

Ask the nurse to select a child at whose home she is prepared to make a home visit for nutritional condition. Ask her the following questions. Score one point for each question on which the nurse has definite information.

1. Is the child underweight for his build?
   (Nurse knows child's weight status)
2. Does the school physician consider the child has poor posture? (Nurse knows the school physicians opinion)
3. Does the physician think that the tonsil or adenoid condition may have anything to do with the child's nutritional status? (Nurse knows the school physician's opinion)

Ask the nurse to select a child at whose home she is prepared to make a home visit for dental condition. Ask her the following questions. Score one point for each question on which the nurse has definite information.

1. How many uncorrected caries does the child have?
   (Nurse knows the condition of the child's teeth)
2. What is the stain condition of the child's teeth?
   (Nurse knows the condition)

Some of the following statements are true and some are false. Ask the nurse to check the statements with which she agrees, and leave those unmarked with which she disagrees. Score one point for each statement marked as indicated.

1. Seats and desks should be arranged in a schoolroom so that the light comes from over the right shoulders of the pupils. (Score one if marked false)

2. Girls of eleven or twelve years of age are often heavier than boys of the same age and height. (Do not score)

3. When children breathe through the mouth, it is usually because they have infected tonsils. (Do not score)

4. The degree to which the bones of the wrist have ossified is one indication of the degree to which a child's skeletal development has proceeded. (Score one if marked true)

5. Alcohol is a depressant rather than a stimulant. (Do not score)

Form F

Inquiry Blank for Home Interviews

HOME VISITS

I Economic Status

1. How many years have you lived at this address?
2. How many rooms do you have?
3. How many people live in the family?
4. How many in the family usually work?
5. What is the father's occupation?
6. Have you ever received relief money?
7. Is the father or wage earner working on a WPA project?
8. If so, is this arrangement better than direct relief?
9. (a) Where were your parents born?
   (b) Where were you born?
   (c) Where were your children born?
10. How much rent do you pay?
11. What is the income of the family per week?
12. How long have you lived in Cincinnati?
13. Where did you live before coming to Cincinnati?
    (A) Southern City
    (B) Southern Rural District
    (C) Northern City
    (D) Northern Rural District
    (E) Lived in Cincinnati all of life

II Health Knowledge, Habits and Attitude

1. Has the child ever complained of headaches, sore throat, toothache, or poor eyesight? Yes. No.
2. (a) Does he seem lazy and tired most of the time?
   (b) Does he like to play with other children or prefer to sit and to lie around?
3. What house remedies do you use for:
   (a) Colds
   (b) Sore throat
   (c) Cuts

4. (a) How many meals do you prepare for him a day?
   (b) Does he have meat as often as he wishes? Yes. No.

5. (a) Do you force him to wash his hands before meals?
   (b) Bathe how often?
   (c) Change underwear how often?

6. (a) Does he have a tooth brush?
   (b) How often are teeth cleaned?

7. (a) What time does he get to bed?
   (b) How many sleep in the bed with him?
   (c) Windows down?

8. (a) Have you ever heard of black magic or spells?
   (b) Do you believe such a spell has ever been cast upon any of your family?

9. (a) Do you know where Shoemaker Center is? Yes. No.
   (b) Health Center? Yes. No.
   (c) General Hospital? Yes No.

10. Have you or any of your family been treated at any one of these clinics? Yes. No.

11. (a) Do you regard them as better than a private physician?
    Yes. No.

III School - Home Relationships

1. Did you know that child's tonsils, teeth, eyes ere bad, or that he was thin and underweight? (Anyone of these, any combination, or all of them)

2. Have you received a notice like this from the nurse? (Show form) Yes. No.

3. What did you do?
   (a) Nothing
   (b) Had conference with nurse
   (c) Examination by private physician
   (d) Other

4. Has nurse ever visited you concerning the child's condition?
   Yes. No.

5. Did she advise you what to do? Yes. No.

6. Do you think the child's condition should be looked after? Yes. No.

7. Would you be opposed to an operation if needed? Yes. No.

Form F

#3

8. If you are opposed to it, Why?
   (a) Expense
   (b) Time
   (c) Personal Objection (State)
   (d) Other

9. Has an appointment ever been made for your child at the General Hospital? Yes. No. How long ago?

10. Why hasn't the child's condition been looked after?
   (a) Expense (d) Opposed to operations
   (b) Indifference (e) Doctor's Advise
   (c) Child Afraid (f) Clinical advice
   (g) Other

11. Has Child complained of sore throat, toothache, or burning eyes lately? Yes. No.

12. What did you do?
   (a) Gave him home remedy
   (b) Sent him to own doctor
   (c) Didn't know what to do
   (d) Other

13. Did you know what was wrong with him? Yes. No.

14. Did you try to find out? Yes. No.

15. Has anyone else told you that the health of your child should have been looked after? Yes. No.

Check Findings

1. Building
   a. Flat
   b. Residential House

2. Rooms
   a. Kitchen
   b. Bedrooms
   c. Bathroom
   d. Living Room
   e. Dining Room
   f. Other

3. Water
   a. Location
      1. Kitchen
      2. Bathroom
      3. Hall
      4. Yard
      5. Basement
      6. Other
   b. Hot, Cold, Heated

(Remarks)

4. Light
   a. Electric, Gas, Korosene

5. Toilet
   a. Location
      1. Bathroom
      2. Hall
      3. Basement
      4. Outside
      5. Other
   b. How many families use

6. Bathtub

Form G

Recording Sheet for Home Interviews

ANSWERS FORM OF HOME VISIT INQUIRIES

Form G

Name..... **Address**..... **Age**.....

Grade..... Sex..... **Teacher**.....

Physical defect:..... No, of years with each defect:.....

1 _____ _____

2 _____ _____

3 _____ _____

4 _____ _____

5 _____ _____

I Economic Status:

1 No. of years ____

2 No. of rooms_____

3 No. in family_____

4 No. who work_____

5 Father's occupation _____

6 Yes. No

7 Yes. No

8 Yes. No

9 a_____

b_____

c_____

10 $_____

11 $_____

12 No. of yrs_____

13

a. Southern City

b. Southern Rural District

c. Northern City

d. Northern Rural District

e Lived in Cin'ti. all of Life.

II Health Knowledge, Habits, etc.

1. yes. no

2 a. yes. no b. yes. no

3 a_____ b_____

c_____

4 a_____; b. yes, no

5 a. yes. no; b_____weekly

c_____weekly

6 a. yes. no b_____

7, a____ b. ____ c yes. no

8 a. yes. no; b. yes. no

9 a yes. no; b. yes. no; c. yes. no

10 yes. no

11 a. yes. no; b._____

School - Home Relationship

1. yes. no

2. yes. no

3

a. nothing c. *Exam.by own physician*

b. Had conference with nurse.

d. Other

4 yes. no.

5 yes. no

6 yes. no

7 yes. no

8 a Expense c. Personal objection

b. Time d. Other

9 a. yes. no b_____

10 a Expense e. Opposed to operation

b. Indiff. f. Doctor's advice

c. Child afraid g. Clinical advice

d. Other

11 yes. no

12 a. Gave home remedy

b. Sent him to doctor

c. Didn't know what to do

13 yes. no

14 yes. no

15 a. yes. no; b_____

(over)

APPENDIX C

Data-Gathering Forms in Health Instruction

Forms H. I. J. K. L.

The Franzen Health Education Tests

Form H

FIVE RULES TEST

Name .....

Age .....

Grade .....

Date .....

School .....

Examiner .....

Score .....

Form I

STORY TEST

Name .....

Age .....

Grade .....

Date .....

School .....

Examiner .....

Score .....

G

DIRECTIONS

Do as you did for the first story.
Underline everything that is good for health.
Cross out everything that is bad for health.
Use a red pencil.

How Teddy's Plan Failed

DICK was sitting on the front steps of his house looking very sad when Teddy ran up the front walk and asked him to go to the store with him. Dick said he guessed he wouldn't go but finally Teddy persuaded him to come along.

As they walked along Teddy asked Dick what was wrong. At first Dick wouldn't tell but when Teddy promised he wouldn't tell anyone else Dick told him what was the matter.

Jack was having a birthday party the next day. Both the boys were invited but Dick had a very queer feeling in his throat and thought he was going to have a sore throat and a cold and then his mother wouldn't let him to go the party.

Teddy thought that certainly was bad luck and the two boys walked along in silence worrying about it. Teddy knew how he would hate to miss a party and tried to think of some way to help Dick.

"I have a plan, Dick, see what you think of it," Teddy said at last. "Don't tell your mother how your throat feels and even if it does hurt tomorrow keep quiet about it. If you don't tell anyone no one will know about it and you can go to the party just the same. I won't tell anyone and will call for you and we will go together."

"Well, maybe," said Dick, "but if it really gets very sore and hurts a lot I shall have to tell, so mother can give me something to help it."

The boys parted at Teddy's house and Dick reminded him not to forget to call for him.

The next day Teddy wondered if Dick really did get sick. He started early to get ready for the party. He took a bath and put on his good clothes. His mother told him he was all right except his finger nails. He must clean them and then he could go. It took him a long time to get them clean because he didn't do them very often.

He ran over to Dick's house and rang the bell. Dick came to the door but he didn't look as though he was ready for a party.

"Hurry and get ready. We'll be very late," Teddy said. But Dick shook his head.

"No," he said, "I can't go to the party with you. I really have a cold and sneeze all the time. Everyone else would probably catch a cold from me. Stop on your way home and tell me about it," and Dick began to sneeze and cough. Teddy ran on to the party after promising to tell Dick all about it.

Teddy had a fine time at the party and since Dick wasn't at the party he ate his share of the refreshments. He had three pieces of cake, lots of candy and two dishes of ice cream.

It was so late when Teddy left the party that he couldn't stop to tell Dick about it. After eating so much at the party he couldn't eat any supper. He was so tired that he went to bed before the rest of the family had finished their supper.

Score.....

Form J

TIME TESTS

Name ----------

Age ----------

Grade ----------

Date ----------

School ----------

Examiner ----------

Score ----------

Form K

MATCHING TEST

Name .....

Age .....

Grade .....

Date .....

School .....

Examiner .....

Score .....

A

( ) Loud shouting or yelling
( ) Cold shower
( ) Talking with mouth full
( ) Clothing on fire
( ) Drink warm milk
( ) Eating fast
( ) Diseased tonsils
( ) Light exercise
( ) Chilled after exposure

1 Wrap in rug and roll over and over
2 Take a hot bath
3 Should be removed
4 Make you hoarse
5 Bad manners
6 May cause indigestion

B

( ) Wet feet
( ) Bad cold
( ) Bedroom
( ) Garbage pail
( ) Flies
( ) Sore throat
( ) Babies' milk
( ) Sick people
( ) Whiskey
( ) Dirty dishes

1 Keep from breeding
2 Should not touch other people's food
3 Blow the nose gently, not hard
4 Keep covered
5 Scald with boiling water
6 Should be very clean
7 Should not be too warm

C

( ) Teeth examined
( ) Studying
( ) Whiskey
( ) Walking
( ) Sleep
( ) Vaccination
( ) Courage
( ) Health examination
( ) Headaches
( ) Lemonade
( ) Daily inspection

1 Prevents smallpox
2 Should be done once a year
3 Helps keep disease from spreading
4 Should be done twice a year
5 Room should be light enough to see clearly
6 Have the doctor examine your eyes for glasses
7 Good to have when very badly hurt
8 Alone in a dark room

A

1	Wrap in rug and roll over and over	( ) Vaccination
2	Take a hot bath	( ) Candy
3	Should be removed	( ) Tea
4	Make you hoarse	( ) Bowel movement
5	Bad manners	( ) Cabbage
6	May cause indigestion	( ) Sore throat
		( ) Oranges
		( ) Beefsteak
		( ) Outdoor exercise
		( ) Coughing

B

1	Keep from breeding	
2	Should not touch other people's food	( ) Hands
3	Blow the nose gently, not hard	( ) Take a short rest
4	Keep covered	( ) Going to the toilet
5	Scald with boiling water	( ) Sleep
6	Should be very clean	( ) Toothbrush
7	Should not be too warm	( ) Playing vigorous ga
		( ) Teeth

C

1	Prevents smallpox	( ) Milk
2	Should be done once a year	( ) Outdoor play
3	Helps keep disease from spreading	( ) Candy
		( ) Dirty dishes
4	Should be done twice a year	( ) Toothbrush
5	Room should be light enough to see clearly	( ) Drinking water
		( ) Going to the toilet
6	Have the doctor examine your eyes for glasses	( ) Reading
		( ) Greens or spinach
7	Good to have when very badly hurt	( ) Common drinking c
		( ) Sleep
8	Alone in a dark room	( ) Hands

( ) Vaccination
( ) Candy
( ) Tea
( ) Bowel movement
( ) Cabbage
( ) Sore throat
( ) Oranges
( ) Beefsteak
( ) Outdoor exercise
( ) Coughing

D

1 Stay home from school
2 Cover mouth with clean hand kerchief
3 Needed every day
4 Take time for it every morning, preferably after breakfast
5 Take in small amounts and only at the end of a meal
6 Do not use it
7 Good for breakfast

E

( ) Hands
( ) Take a short rest
( ) Going to the toilet
( ) Sleep
( ) Toothbrush
( ) Playing vigorous games
( ) Teeth

1 Stop before getting too tired
2 Wash before eating
3 Lying on the side, comfortably relaxed, using a low pillow
4 Should be cleaned every night before going to bed
5 Good to do in the middle of the day

F

( ) Milk
( ) Outdoor play
( ) Candy
( ) Dirty dishes
( ) Toothbrush
( ) Drinking water
( ) Going to the toilet
( ) Reading
( ) Greens or spinach
( ) Common drinking cup
( ) Sleep
( ) Hands

1 Keep in a clean dry place
2 Do not use it
3 Should be kept covered in a cold clean place
4 Light should come from over the left shoulder
5 Scald with boiling water
6 Windows should be open
7 Three or four hours daily
8 Wash hands afterwards
9 Eat several times a week

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D

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F

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2 Do not use it
3 Should be kept covered in a cold clean place
4 Light should come from over the left shoulder
5 Scald with boiling water
6 Windows should be open
7 Three or four hours daily
8 Wash hands afterwards
9 Eat several times a week

G

( ) A bad cold
( ) Crossing streets
( ) A slight bruise
( ) A cold shower
( ) Warm soapy bath
( ) Climbing stairs
( ) Cut finger
( ) Cinder in the eye
( ) A short rest
( ) Exercise

1 Take at least twice a week
2 Take immediately after a meal
3 Use a clean bandage
4 Have a grown person take care of it
5 Watch the traffic
6 Keep the feet dry if possible
7 Rub briskly with a rough towel

H

( ) Games
( ) Teeth
( ) Wet feet
( ) Dirty dishes
( ) Lemon juice
( ) Cold shower
( ) Milk
( ) Water
( ) Toothbrush
( ) Greens
( ) Sleep

1 Take every morning upon rising
2 Use a pint or more every day
3 Use before going to bed
4 Should be dried as soon as possible
5 Wash in hot soapy water
6 Drink 4 to 6 glasses a day
7 Should be long hours in fresh air

I

( ) Glasses
( ) Coffee
( ) Shoes
( ) Finger nails
( ) Beef steak
( ) Wraps
( ) Cereal
( ) Teeth
( ) Comb
( ) Bedroom

1 Good for breakfast
2 Should not be too warm
3 Should be cleaned every night before going to bed
4 Keep shiny
5 Should always be fitted by a specialist
6 Cut and clean regularly
7 Remove when indoors

Form L

TRUE FALSE TEST

Name.....

Age .....

Grade .....

Date .....

School .....

Examiner .....

Score.....

DIRECTIONS

If statement number 1 is true, put a circle around the T, but if it is false, put a circle around the F. Do the same for all the statements.

T F 1. Candy should be eaten only at the end of a meal.

T F 2. Cheese, meat and eggs are rich in proteins.

T F 3. All boys and girls should drink from 10 to 12 glasses of water a day.

T F 4. An orange, a glass of milk and hot cooked whole wheat cereal is a better breakfast than an orange, a glass of milk and puffed wheat.

T F 5. Hot cinnamon rolls or white rolls, fresh and hot, are the best kind of bread for boys and girls.

T F 6. It is easier and more effective to get vitamins from yeast and vitamin tablets than from fruits and vegetables.

T F 7. Whole wheat bread is good for boys and girls even if it has a tough crust.

T F 8. Spinach is a good food because it is rich in vitamins and iron.

T F 9. One reason why it is a good thing to keep milk in the ice box is because bacteria do not grow so fast in a cold place.

Score.....

T F 10. Boys and girls should eat their meals without laughing and should plan their school work while they are eating.

T F 11. Butter and cream are fatty foods.

T F 12. When you weigh yourself you should keep your coat on so that you will weigh as much as possible.

T F 13. You should never take more than fifteen or twenty minutes to eat a meal.

T F 14. The esophagus is a part of the alimentary canal.

T F 15. One reason why food should be chewed thoroughly is to mix it with saliva and give the saliva a chance to start the digestion of the food.

T F 16. Breathing through the mouth is bad because it is likely to cause stomach ache or earache.

T F 17. About one-fifth of the air is oxygen and most of the rest nitrogen.

T F 18. The reason that a badly ventilated room is uncomfortable is because there is so much carbon dioxide in the air.

T F 19. Girls should not play in the sunshine because they get sunburned and freckled.

T F 20. Drinking milk and playing in the sunlight help to make straight bones.

Score.....

A

DIRECTIONS

Underline everything that is good for health.
Cross out everything that is bad for health.
Use a red pencil.
Two things are already marked correctly in this story.

Jean Learns How to Play a New Game

JEAN ran down the long hall through the school toward the playground. As she passed the drinking fountain she stopped for a long cool drink. She pressed her lips close to the pipe so as not to waste a drop of the sparkling water. The girls in Jean's gymnasium class were to learn to play basket ball that afternoon and they were very much excited about it. They played with the ball, trying to throw it into the basket, until their time in the gymnasium was over. When they were leaving, the teacher gave each one a book of rules to look over at home before they played again.

Several of Jean's classmates lived near her and on their way home from school they planned to play basket ball all afternoon. One of the girls borrowed a basket ball from her brother and Jean's brother fastened a barrel hoop to a tall fence for them to use as a basket. The girls had a wonderful time and yelled and shouted until they were hoarse and very thirsty.

They all went into Jean's house to have a drink and counted out to see who should be first to use the pretty green glass that stood near the faucet. Jean's mother gave each one three cookies and the girls sat on the porch to eat them and plan for other afternoons practicing with the ball. One of the girls thought her father might give her a basket ball for her birthday. Jean's

Score.....

mother had told them when she gave them the cookies that it was five o'clock so they could only stay a few minutes longer.

After supper Jean took her book of basket ball rules and sat down to read in front of a lamp so that her book was in a bright light. She studied them carefully and by eight o'clock she was sure she would be able to play the game the next time they went to the gymnasium.

Jean was very tired and was glad she didn't have any more studying to do so that she could go right to bed.

Score.....

B

DIRECTIONS

Do as you did for the first story.
Underline everything that is good for health.
Cross out everything that is bad for health.
Use a red pencil.

May Day

MAY DAY was to be a special day in school—the smallest children were all to bring their luncheon so that they would have time to go out to a large field near the school to gather violets for May baskets.

Mary's mother gave her a nice lunch with a pear from a box her aunt had sent from California and a small bottle of milk. The children were so busy talking and planning while they ate their lunches that they ate very slowly. Even when they were finished they talked over their plans for delivering the May baskets without being seen at the door.

When all their plans were made the children ran out of the school building, across the playground, and along the road to the field that was blue with violets. Mary was picking a violet with a very long stem. As her fingers slid down into the cool grass she felt something cold and hard. She parted the grass and looked. There was a dime. Mary picked up the dime and wondered where to put it. She had no pockets and needed both hands to pick flowers, so she popped the dime into her mouth and hurried with her picking for she wanted to have the largest bunch of flowers.

When the children got back to school they were quite out of breath from running and their hands were very dirty. They took turns washing them and had great fun

Score.....

trying to get the towel from each other. The baskets were all filled and delivered and the children all said it had been a wonderful day.

Mary stopped at the library on her way home to get a new book to read. She found one about children who lived in the colonial days. It was on thin paper with fine print, and had some very beautiful illustrations. Mary took this book home with her and spent the afternoon reading it and looking at the pictures, although several of her friends wanted her to come out doors and play with them.

Score.....

C

DIRECTIONS

Do as you did for the first story.
Underline everything that is good for health.
Cross out everything that is bad for health.
Use a red pencil.

Harold Gets a New Book

HAROLD ran into the house with a new library book. It was about pirates and hidden treasure. He threw down his school books and cap and curled up in a big chair to read. While he was reading he heard a strange noise in the room which kept growing louder and louder and he finally looked up to see what it could be. At the same time he felt a sharp sting on his leg. It seemed to Harold as though the pirates were all around him only he couldn't see them. At length he realized that the noise was being made by several flies buzzing around the room and when he felt another stab on his leg he saw it was a mosquito. He killed one mosquito but heard another singing by his ear. He wondered how they had come into the house and then saw that he had left the screen door open.

That night at supper Harold hardly noticed the carrots and tomatoes and other things he ate and was very much surprised when he picked up his glass and found the milk all gone. He must have drunk it while he was thinking about the pirates.

His father thought Harold was very quiet and began to talk to him about baseball. Harold was glad to be able to tell his father he had gained enough weight during the winter to play on the school team.

Harold ate very quickly and asked to be excused from the table before the rest of the family had finished.

Score .....

He wanted to read more about the adventures of John Silver and the pirate crew. The rest of the family came into the living room but Harold didn't hear them. His mother spoke to him several times before he heard her—and when she said it was eight o'clock and his sister Grace had gone to bed, he had to look at the clock before he could believe it.

He asked why Grace had gone to bed so early and his mother told him she was not feeling very well. Grace was very thin and had lost three pounds in the last month. She didn't eat her carrots or tomatoes at dinner and only drank half her glass of milk. Harold hoped she wasn't going to be ill as he wanted her to play pirates with him the next day.

While he prepared for bed he planned a pirate game. In his absent-minded hurry he used his father's wash cloth and towel and even brushed his teeth with Grace's toothbrush. He laughed about that as he opened his window and then jumped into bed.

Score.....

D

DIRECTIONS

Underline everything that is good for health.
Cross out everything that is bad for health.
Use a red pencil.
Two things are already marked correctly in this story.

Betty Entertains Her Friends

BETTY's mother had to go to the city shopping. She told Betty she might invite two friends to have luncheon with her. Everything was left ready for luncheon so all Betty had to do was to put the meal on the table and wash the dishes after luncheon. Betty's sister was sick in bed with a cold and Betty put her lunch on a tray and took it to her before the rest of them ate.

The girls planned carefully how to get through clearing up quickly so they would have some time to play before they went back to school. Betty was to put the food away while the others cleared the table, scraped and rinsed the dishes and piled them up ready to wash. Betty put the milk and butter in the ice box and the vegetables and meat in the cupboard. Then she ran to get her sister's tray so her dishes would be done at the same time as the others.

The water was not very hot but the girls didn't want to wait for some to heat, so Betty washed the dishes in lukewarm water with lots of soap. The others polished the glasses from the soapy water and remarked about how pretty the bubbles looked on the glass. They dried the rest of the dishes and put them away. When they were finished they found that they would have some time to play.

Score.....

The girls decided to go to the playground to play in the swings so they hurried away. When they came to the corner of the street many automobiles and trucks were passing, but they ran quickly across the street so as not to be hit by any of them.

They played in the swings until it was time for school. They also planned to play out of doors together that afternoon since it was a nice sunny day.

Score.....

E

DIRECTIONS

Do as you did for the first story.
Underline everything that is good for health.
Cross out everything that is bad for health.
Use a red pencil.

John and His Father Go Skating

THE lake was frozen over, so the boys had spent part of the afternoon holding races on the ice. John's father had told them when to start and two of the boys watched to see who won the race. When John's father looked at his watch it was very late so they all took off their skates and ran for home.

John and his father raced into the house calling for supper in a hurry, they were so hungry. The house seemed very warm and they wondered if it was because they had been running so fast. They looked at the thermometer and it registered 78 degrees. The room really was warm.

At supper they told the rest of the family all the funny things that had happened on the ice. The boys had played all kinds of jokes on one another. John was so hungry and so busy talking about the races that he ate some of everything that was passed to him. He ate spinach, mashed potatoes, a poached egg, brown bread and butter, a big juicy dill pickle and a baked apple with cream. When he asked for something hot to drink, his mother gave him a cup of tea with lots of sugar in it.

After supper he went up to the attic to look for his hockey stick. It was not very light in the attic and while he was running his hand back of some boxes he ran a long splinter into his finger. John was a brave boy and

Score..... .....

quickly pulled out the splinter and went on with his search. At length he found his stick and took it down to his carpenter's bench to fix it up. The stick was in such bad condition that he worked on it until ten o'clock, at which time he became so sleepy he went to bed. He went to sleep thinking about the fun he would have next day playing hockey with the rest of the boys.

But John was most unfortunate, for the next morning when he woke up he had a sore throat, and when he told his mother she sent for the doctor. After examining him, the doctor said John would have to stay in bed for a few days and take the medicine regularly that he was leaving for him. John knew he was missing important work at school and all the fun outdoors on the ice, but he did as he was told without fussing. In a few days the doctor said he might go back to school. How glad John was to see all his friends again and be able to play hockey on the lake.

Score.....

F

DIRECTIONS

Do as you did for the first story.
Underline everything that is good for health.
Cross out everything that is bad for health.
Use a red pencil.

Chums

ALICE and Helen were chums. They lived next door to each other and were in the same class at school. They always went to school together and came home together.

One afternoon as they came out of school it began to rain very hard and they ran as fast as they could for home. They went to Alice's house first, stopping there to get their feet dry. Alice's mother had been shopping and brought home some new pencils for her. They had dolls' heads on the tops of them and both the girls thought they were the nicest pencils they had ever seen. Alice tried each one of them and then let Helen try them. Some of them did not write very well so the girls had to moisten them with their lips.

Before they started to do their home work, Alice asked her mother if they might have some cookies or some candy. Her mother gave each of them some bread and butter which they ate, although they would have liked candy much better.

They finished most of their work in the afternoon and Alice went home with Helen for supper. By seven o'clock they had finished their lessons and so played a game of parcheesi until half past seven when Alice had to go home.

She wasn't at all sleepy but went upstairs and started

Score.....

to get ready to go to bed. She decided she would take a bath so filled the tub with warm water. Her mother had to call to her to tell her to hurry and get out of the tub. Alice liked to stay in the warm, soapy water but jumped out and rubbed herself dry with a big, rough towel. She put on a clean nightgown and got into bed just as the clock struck eight. She forgot to open the window and was going to get up and open it when she heard the wind howling around the house and decided it might rain so turned over to go to sleep.

Score.....

T F 21. Boys and girls should get their lessons immediately after school and should not play out of doors until after supper when the lessons are done.

T F 22. Twelve-year-old boys and girls do not need to sleep more than eight hours every night.

T F 23. The heart beats faster when you are lying down than it does when you are sitting up awake.

T F 24. It is a sign of good health to wake up in the morning feeling rested and ready to get up.

T F 25. It is better to sleep on a deep, soft feather bed than on a firm mattress.

T F 26. Playing out of doors every day, eating fruits and vegetables, drinking plenty of water, and sleeping long hours at night are all important to keep you from being constipated.

T F 27. When you go to bed it is all right to wear, for warmth, the underclothes which you have worn during the day.

T F 28. It is not necessary to have a bowel movement before going to school if you feel that you don't need to.

T F 29. Washing your hands thoroughly after using the toilet helps prevent spread of disease.

Score.....

T F 30. The best way to prevent constipation is to take castor oil once a week.

T F 31. Reading the baseball news in the newspaper, going to a great many baseball games and movies of sporting events will be more likely to help a boy to be a good athlete than sleeping long hours at night, eating regularly and playing out of doors every day.

T F 32. If you do not use your muscles they will get soft and flabby.

T F 33. If boys and girls do setting-up exercises every morning for ten minutes they do not need to play out of doors.

T F 34. There is much lime in bones.

T F 35. Playing out of doors in the sunshine helps boys and girls to grow strong, and helps to prevent some diseases.

T F 36. The important reason why boys and girls should not use seats and desks that are too small for them is that it does not look well to see big boys and girls in small seats.

T F 37. When you are sitting at your desk studying, your feet should be flat on the floor, the lower part of your back should be against the back of your seat.

Score.....

T F 38. When there is a gymnasium at school, it is better to play there after school every day, if the principal will let you, than to play out of doors on the playground.

T F 39. It is good for children to jump rope, run races, or play ball even when very tired, because these are good exercises.

T F 40. A soft toothbrush that is kept wet all the time is the best kind to use.

T F 41. Milk is a good food to use to help make good teeth.

T F 42. When food sticks in between the teeth, bacteria grow there very easily.

T F 43. Boys and girls should not chew coarse foods such as whole wheat bread, dry crusts or toast because they may scratch the teeth.

T F 44. Chewing tough food gives the gums of the teeth exercise that is good for them.

T F 45. Bacteria grow more quickly in a wet place than in a dry place (such as a wet or dry toothbrush.

T F 46. The most important reason for brushing the teeth is that they look better when they are brushed.

T F 47. If you use the towel of someone who has sores on his face and hands you may get sores on your own face and hands.

Score.....

T F 48. After you take a cold shower you should feel warm and glowing.

T F 49. Regular washing and brushing of the hair gives a more attractive luster than the use of the best hair ointments, pomades, or golden glint rinses.

T F 50. When you are reading at night you should sit so that the light is in front of you and shines right on your book.

T F 51. If you get a cinder in one eye the best thing to do is to wash your fingers so they are clean, and then rub the other eye till the cinder comes out.

T F 52. If you are told by your school doctor that you need glasses, and if you cannot afford to spend very much money, you should go to the Five and Ten Cent Store to buy the glasses.

T F 53. If you have a slightly sore throat or your nose is slightly stopped up it is better to tell your parents, the teacher, or the nurse at once than to be brave and keep it to yourself.

T F 54. If you have a running ear, the thing to do is not to bother anyone about it unless it is very bad.

T F 55. The best way to blow the nose is to close first one nostril and then the other and to blow gently.

Score.....

T F 56. The only reason why you should carry a clean handkerchief is because it looks better than a dirty one.

T F 57. When you cough or sneeze, if you turn your head away from the people to whom you are talking, it is all right not to cover your mouth with a handkerchief.

T F 58. Woolen clothes keep the body warm better than cotton clothes.

T F 59. Shoes with round toes are not as good as shoes with pointed toes because they make your feet look bigger.

T F 60. Tight clothes hinder the circulation of the blood.

T F 61. The most important reason why you should change to dry shoes and stockings when your feet are wet (or should dry your shoes and stockings) is that wet shoes make tracks on the floor.

T F 62. Girls who have always worn shoes that have low heels, broad toes and straight inside lines have prettier feet than girls who wear dainty, high heeled pumps.

T F 63. If you think you have been exposed to poison ivy, it is a good thing to wash with a strong laundry soap and hot water.

T F 64. It is better to run quickly across a street than to walk.

Score.....

T F 65. If you are putting out a bonfire, it is a good thing to cover the sparks with dust.

T F 66. It is all right to use your handkerchief to bandage a bleeding finger if you have only used the handkerchief two or three times.

T F 67. If you have nose bleed, it is a good thing to hold a cold cloth or a piece of ice to the back of your neck.

T F 68. People who have weak hearts should use alcohol to stimulate them.

T F 69. The worst result of smoking cigarettes is that it makes the fingers yellow.

T F 70. Nicotine is a habit forming drug, and after you have formed the habit of using it, it is hard to stop.

T F 71. Boys and girls should not ask questions about things which they do not understand.

T F 72. If some one hurts your feelings, and you have a grudge against him, you should keep on thinking about it until he apologizes.

T F 73. When you get very angry, it may interfere with digestion.

T F 74. If you have something unpleasant to do, you should put it off until the last minute so that it won't spoil your pleasure.

Score.....

T F 75. When there is an epidemic of influenza, you are more likely to catch it by going to the movies than by playing ball outdoors.

T F 76. The most important reason for keeping garbage covered is that it has an unpleasant odor.

T F 77. When you are washing dishes, you should not use boiling water since it may crack the dishes.

T F 78. If the families in your neighborhood use outhouses, flies are more likely to carry dangerous diseases in that neighborhood than if all the families have bathrooms and plumbing connected with the city sewer system.

T F 79. There are likely to be more flies in a neighborhood where several families have cows and horses than in a neighborhood where there are no cows and horses.

T F 80. Mosquitoes lay their eggs in dry sunny spots.

T F 81. The best way to keep from having smallpox is to stay home from school when you know that there are any cases of smallpox in the neighborhood.

T F 82. Being vaccinated is a good way to keep from having diphtheria.

T F 83. The reason why dairies pasteurize milk is to make the cream rise.

Score.....

T F 84. Exchanging pencils with your friends and putting them in your mouth is a way of spreading colds.

T F 85. The advertising that you see in magazines and on signs as to what is good for your health is always true.

T F 86. If you are sick the best thing to do is to buy some medicine at the nearest drug store.

T F 87. When you are watering plants, it is necessary to pour water on their leaves because plants take in water through their leaves.

T F 88. Patent medicines are likely to have harmful drugs in them even if they have many testimonials from people who have used them.

T F 89. A hyacinth bulb contains food which the plant will use in growing.

T F 90. Pollen is a useless yellow dust that is on the stamens of some flowers.

T F 91. A plant that grows in a gloomy room is just as likely to have bright green leaves as one that grows in a sunny greenhouse, if you give them both the same amount of water.

T F 92. Woodpeckers, swallows, thrushes and sparrows are useful because they destroy harmful insects.

Score.....

Tables I, II, and III

Tables I, II, and III

TABLE I

NUMBER AND PERCENTAGE OF 104 SIXTH GRADE PUPILS MAKING CORRECT RESPONSE ON THE FRANZEN TRUE - FALSE HEALTH TEST

Test item	True or False	No. of Pupils making correct response	Percent
Food Habits and Food			
Candy should be eaten only at the end of a meal	T	101	97
Cheese, meat, and eggs are rich in proteins.	T	67	64
All boys and girls should drink from 10 to 12 glasses of water a day	F	43	41
An orange, a glass of milk and hot cooked whole wheat cerial is a better breakfast than an orange, a glass of milk and puffed wheat	T	57	54
Hot cinnamon rolls or white rolls, fresh and hot, are the best kind of bread for boys and girls	F	52	50
It is easier and more effective to get vitamins from yeast and vitamin tablets than from fruits and vegetables.	F	76	73
Whole wheatbread is good for boys and girls even though it has a tough crust.	T	87	83
Spinach is a good food because it is rich in vitamins and iron	T	96	92
One reason why it is a good thing to keep milk in the icebox is because bacteria do not grow so fast in a cold place	T	80	76
Boys and girls should eat their meals without laughing and should plan their school work while eating	F	76	73
Butter and cream are fatty foods	T	84	80
You should never take more than fifteen minutes to eat a meal	F	58	55

TABLE I (continued)

Test item	True or False	No. of pupils making correct response	Percent
Sunshine and Fresh Air			
Girls should play in the sunshine because they get sunburned and freckled	F	76	73
Where there is a gymnasium at school it is better to play there after school every day, if the principal will let you, than to play out of doors on the playground	F	74	71
A plant that grows in a gloomy room is just as likely to have bright green leaves as one that grows in a sunny greenhouse, if you give them both the same amount of water	F	45	43
Rest and Sleep			
Twelve-year-old boys and girls do not need to sleep more than eight hours every night	F	52	50
It is the sign of good health to make up in the morning feeling rested and ready to get up	T	92	88
It is better to sleep in a deep, soft feather bed than on a firm mattress	F	32	30
Exercise			
Boys and girls should get their lessons immediately after school and should not play out of doors until after supper when lessons are done	F	32	30
Reading the baseball news in the newspaper, going to a great many baseball games and movies of sporting events will be more likely to help a boy to be a good athlete than sleeping long hours at night, eating regularly and playing out of doors every day	F	65	62

TABLE I (continued)

Test item	True or False	No. of Pupils making correct response	Percent
If you do not use your muscles, they will get soft and flabby	T	90	86
If boys and girls do setting up exercises every morning for ten minutes they do not need to play out of doors	F	91	87
Playing out of doors in the sunshine helps boys to grow strong and helps to prevent some diseases	T	92	88
It is good for children to jump rope, run races, or play ball even when they are tired, because these are good exercises	F	31	29
Elimination			
Playing out of doors every day, eating plenty of fruits and vegetables, drinking plenty of water, and sleeping long hours at night are all important to keep you from being constipated	T	97	93
It is not necessary to have a bowel movement before going to school if you feel that you do not need to	F	73	70
Hygiene of Special Organs			
A soft toothbrush that is kept wet all the time is the best kind to use	F	84	80
Milk is a good food to use to help make good teeth	T	89	85
When food sticks in between the teeth, bacteria grows there easily	T	77	74

TABLE I (continued)

Test item	True or False	No. of pupils making correct response	Percent
Boys and girls should not chew course food such as whole wheat bread, dry crusts or toast because they may scratch the teeth	T	88	84
Chewing tough food gives the gums of the teeth exercise that is good for them	T	96	92
Bacteria grow more quickly in a wet place than in a dry place such as a wet or dry toothbrush	T	68	65
The most important reason for brushing the teeth is that they look better when they are brushed	F	34	32
When you are reading at night, you should sit so the light is in front of you and shines right on your book	F	45	43
If you get a cinder in one eye the best thing to do is to wash your fingers so they are clean, and then rub the other eye until the cinder comes out	F	39	37
If you are told by your school doctor that you need glasses, and if you cannot afford to spend much money, you should go to the Five-and-Ten Cent Store to buy glasses	F	74	71
If you have a slightly sore throat or your nose is slightly stopped, it is better to tell your parents, the teacher, or the nurse at once than to be brave and keep it to yourself	T	83	79
If you have a running ear, the thing to do is not to bother anyone about it unless it is very bad	F	87	83

TABLE I (continued)

Test item	True or False	No. of Pupils making correct response	Percent
Sanitation and Preventive Measures			
Washing your hands thoroughly after using the toilet helps prevent the spread of disease	T	95	91
If you use a towel of someone who has on his face and hands you may get sores on your own face and hands	T	97	93
The only reason why you should carry a clean handkerchief is because it looks better than a dirty one	F	60	57
When you cough or sneeze, if you turn your head away from people to whom you are talking, it is all right not to cover your mouth with a handkerchief	F	64	61
When there is an epidemic of influenza, you are more likely to catch it by going to the movies than by playing ball outdoors	T	55	52
The most important reason for keeping garbage covered is that it has an unpleasant odor	F	36	34
When you are washing dishes, you should not use boiling water since it may crack the dishes	F	53	50
If the families in your neighborhood use outhouses, flies are more likely to carry dangerous diseases in that neighborhood than if all of the families have bathrooms and plumbing connected with the city sewer system	T	73	70
There are likely to be more flies in a neighborhood where several families have cows and horses than in a neighborhood where there are no cows and horses	T	71	68

TABLE I (continued)

Test item	True or False	No. of pupils making correct response	Percent
Mosquitoes lay their eggs in dry sunny spots	F	44	41
The best way to keep from having smallpox is to stay home from school when you know that there are any cases of smallpox in the neighborhood	F	38	36
Being vaccinated is a good way to keep from having diphtheria	T	73	70
The reason dairies pasteurize milk is to make cream rise	F	50	48
Exchanging pencils with your friends and putting them in your mouth is a way of spreading colds	T	73	70
Woodpeckers, swallows, thrushes and sparrows are useful because they destroy harmful insects	T	64	61
Clothing			
When you go to bed it is all right to wear, for warmth, the underclothes which you have worn during the day	F	97	93
Woolen clothes keep the body warm better than cotton clothes	T	69	66
Shoes with round toes are not as good as shoes with pointed toes because they make your feet look bigger	F	70	67
Tight clothes hinder the circulation of the blood	T	86	82
Safety and First Aid			
If you think you have been exposed to poison ivy, it is a good thing to wash with a strong laundry soap and hot water	T	60	57

TABLE I (continued)

Test item	True or False	No. of pupils making correct response	Percent
It is better to run quickly across a street than to walk	F	53	50
If you are putting out a bonfire, it is good thing to cover the sparks with dust	T	54	51
It is all right to use your handkerchief to bandage a bleeding finger if you have only used the handkerchief two or three times	F	76	73
The advertising you see in magazines and on signs as to what is good for health is always true	F	40	38
If you are sick the best thing to do is to buy some medicine at the nearest drug store	F	30	28
Patent medicines are likely to have harmful drugs in them even if they have many testimonials from people who have used them	T	65	62
Mental Hygiene			
Boys and girls should not ask questions about things which they do not understand	F	65	62
If some one hurts your feelings and you have a grudge against him, you should keep on thinking about it until he apologizes	F	50	48
When you get very angry, it may interfere with your digestion	T	52	50
If you have something unpleasant to do, you should put it off until the last minute so that it will not spoil your pleasure	F	43	41
Sex Hygiene			
Pollen is a useless yellow dust that is on the stamen of some flowers	F	31	29

TABLE I (continued)

Test item	True or False	No. of pupils making correct response	Percent
Alcohol, Tobacco, and Drugs			
The worst results of smoking cigarettes is that it makes the fingers yellow	F	54	51
Nicotine is a habit forming drug, and after you have formed the habit of using it, it is hard to stop	F	26	25
Physiology (General) and Anatomy			
When you weigh yourself you should keep your coat on so that you will weigh as much as possible	F	102	95
The esophagus is a part of the alimentary canal	T	41	39
About one-fifth of the air is oxygen and most of the rest nitrogen	T	56	53
Breathing through the mouth is bad bedause it is likely to cause stomach ache or earache	F	26	25
The reason that a badly ventilated room is so uncomfortable is because there is so much carbon in the air	F	23	22
Drinking milk and playing in the sunlight help to make straight bones	T	98	94
The heart beats faster when you are lying down than it does when you are sitting up awake	F	59	56
The best way to prevent constipation is to take castor oil once a week	F	23	22
There is much lime in bones	T	66	63
After you take a cold shower you should feel warm and glowing	T	72	69

TABLE I (continued)

Test item	True or False	No. of pupils making correct response	Percent
Regular washing and brushing of the hair gives a more attractive luster than the use of the best ointments, pomades, or golden glint rinses	T	72	69
The most important reason why you should change to dry shoes and stockings when your feet are wet (or should dry your shoes and stockings) is that wet shoes make tracks on the floor	F	62	59
Girls who have always worn shoes that have low heels, broad toes and straight inside lines have prettier feet than girls who wear dainty, high heeled pumps	T	64	61
If you have a nose bleed, it is a good thing to hold a cold cloth or a piece of ice to the back of your neck	T	92	89
People who have weak hearts should use alcohol to stimulate them	F	61	58
When you are watering plants, it is necessary to pour water on their leaves because plants take in water through their leaves	F	61	57
A hyacinth bulb contains food which the plant will use in growing	T	51	49
One reason food should be chewed thoroughly is to mix it with saliva and give the saliva a chance to start the digestion of food	T	85	81
Posture			
The important reason why boys and girls should not use seats and desks that are too small for them is that it does not look well to see big boys and girls in small seats	F	25	24

TABLE I (continued)

Test item	True or False	No. of pupils making correct response	Percent
When you are sitting at your desk studying your feet should be flat on the floor, the lower part of your back should be against the back of your seat	T	102	95
The best way to blow the nose is to close first one nostril and then the other and to blow gently	T	78	75

TABLE II

NUMBER AND PERCENTAGE OF 104 SIXTH GRADE PUPILS MAKING CORRECT RESPONSE ON THE FRAYSER MATCHING TEST

Test item		No. of pupils making correct response	Percent
	A		
Loud shouting	Make you hoarse	75	72
Cold shower	no match	15	14
Talking with mouth full	Bad manners	68	65
Clothing on fire	Wrap in rug and roll over and over	93	89
Drink warm milk	No match	50	48
Eating fast	May cause indigestion	68	65
Diseased tonsils	Should be removed	65	62
Light exercise	No match	49	44
Chilled after exposure	Take a hot bath	44	42

TABLE II (continued)

Test item		No. of pupils making correct response	Percent
	B		
Wet feet	No match	28	26
Bad cold	Blow nose gently not hard	71	68
Bedroom	Should not be too warm	15	14
Garbage pail	Keep covered	53	50
Flies	Keep from breeding	8	7
Sore throat	No match	27	25
Babies' milk	Should be very clean	9	8
Sick people	Should not touch other people's food	49	47
Whiskey	No match	40	38
Dirty dishes	Scald with hot water	46	44
	C		
Teeth examined	Should be done once a year	53	50
Studying	Room should be light enough to see clearly	80	76
Whiskey	No match	46	44
Walking	No match	45	43
Sleep	Alone in a dark room	66	63
Vaccination	Prevents smallpox	30	28
Courage	Good to have when badly hurt	30	28
Health examination	Should be done once a year	34	32
Headaches	Have doctor examine your eyes for glasses	51	49
Lemonades	No match	51	49
Daily inspection	Helps keep disease from spreading	19	18

TABLE II (continued)

Test item		No. of pupils making correct response	Percent
	D		
Vaccination	No match	58	55
Candy	Take in small amounts and only at the end of a meal	77	74
Tea	Do not use it	78	75
Bowel movement	Take time for it every morning, preferably after breakfast	29	27
Cabbage	No match	45	43
Sore throat	Stay home from school	68	65
Oranges	Good for breakfast	43	41
Beefsteak	No match	26	25
Outdoor exercise	Needed every day	63	61
Coughing	Cover mouth with clean handkerchief	92	88
	E		
Hands	Wash before eating	92	88
Take a short rest	Good to do in the middle of the day	46	44
Going to toilet	No match	36	34
Sleep	Lying on side, relaxed, using a low pillow	80	76
Toothbrush	No match	35	33
Playing vigorous games	Stop before getting tired	70	67
Teeth	Should be cleaned every night before going to bed	72	69
	F		
Milk	Should be kept in covered cool place	79	75
Outdoor play	Three or four hours daily	61	58
Candy	No match	26	25

TABLE II (continued)

Test item		No. of pupils making correct response	Percent
Dirty dishes	Scald with boiling water	71	68
Toothbrush	Keep in a clean dry place	52	50
Drinking water	No match	48	46
Going to toilet	Wash hands afterwards	51	49
Reading	Light should come from over left shoulder	82	78
Greens or spinach	Eat several times a week	78	75
Common drinking cup	Do not use it	26	25
Sleep	Windows should be open	79	75
Hands	No match	44	42
	G		
A bad cold	Keep the feet dry if possible	49	47
Crossing streets	Watch the traffic	87	83
A slight bruise	No match	21	20
A cold shower	Rub briskly with a rough towel	44	42
Warm soapy bath	Take at least twice a week	59	56
Climbing stairs	No match	52	50
Cut finger	Use a clean bandage	64	61
A short rest	Have a grown person take care of it	47	45
Exercise	Take immediately after a meal	45	43
	No match	26	25
	H		
Games	No match	19	18
Teeth	No match	46	44
Wet feet	Should be dried as soon as possible	64	61
Dirty dishes	Wash in hot soapy water	72	69

TABLE II (continued)

Test item		No. of pupils making correct response	Percent
Lemon juice	No match	27	25
Cold shower	Take every morning upon rising	27	25
Milk	Use a pint or more every day	47	45
Water	Drink four to six glasses a day	70	67
Toothbrush	Use before going to bed	42	40
Greens	No match	57	54
Sleep	Should be long hours in fresh air	30	37
	I		
Glasses	Should always be fitted by a specialist	30	28
Coffee	No match	46	44
Shoes	Keep shiny	34	32
Finger nails	Cut and clean regularly	49	47
Beef steak	No match	26	25
Wraps	Remove when indoors	48	46
Cereal	Good for breakfast	53	50
Teeth	Should be cleaned every night before going to bed	44	42
Comb	No match	39	37
Bedroom	Should not be too warm	28	26

TABLE III

NUMBER AND PERCENTAGE OF 104 SIXTH GRADE PUPILS MAKING CORRECT RESPONSES TO ITEMS ON THE FRAIZEN STORY TEST

Test item	No. of pupils making correct response	Percent
(Underline the words in the following statements as good for health, or cross out words in parenthoses as bad for health)		
Story A		
The girls had a wonderful time and (yelled and shouted) until they were (hoarse) and very thirsty. Credit to either one	59	56
They all went into Jean's house to have a drink and counted to see who should be the(first to use) the pretty green glass	10	9
After supper Jean took her book of basketball rules and sat down to read in (front) of a lamp so that her book was in (a bright light). Credit to either one	48	46
Joan was very tired and was glad that she did not have any more studying to do so that she could go right to bed.	37	35
Story B		
Harry's mother gave her a nice pear from a box.	53	50
The children were so busy talking and planning while they ate their lunches that they ate very slowly.	57	54
She had no pockets and needed both hands to pick flowers, so she popped the dime into her (mouth) and hurried with her picking.	93	89
They took turns washing them.....	54	51
It was on thin paper with (fine print)...	8	7
Story C		
He threw down his school books and cap and (curled)up in a big chair to read.	40	38
He killed one mosquito but heard another buzzing by his ear.	13	12

TABLE III (continued)

Test item	No. of pupils making correct response	Percent
He wondered how they had come into the house and then saw that he had left the (screen door) open	45	43
That night at supper Harold hardly noticed the carrots and tomatoes and other things he ate	64	61
Harold was glad to be able to tell his father he had gained enough weight during the winter.	32	30
Harold ate very (quickly) and asked to be excused.	54	51
Grace was very thin and had (lost three pounds) in the last month	19	18
She (didn't) eat her carrots or tomatoes at dinner	24	23
In his absent-minded hurry he used his (father's) wash cloth.	50	48
He laughed about that as he opened his window and jumped into the bed.	45	43
Story D		
Betty was to put the food away while the others cleared the table, scraped and rinsed the dishes and piled them up ready to wash.	27	25
Betty put the milk and butter in the ice box and the vegetables and meat in the (cupboard).	17	12
The water was not very hot but the girls didn't want to wait for some to heat, so Betty washed the dishes in (lukewarm) water.	23	22
When they came to the corner of the street many automobiles and trucks were passing but they ran (quickly across) the street.	49	46
Story E		
They looked at the thermometer and it registered (78) degrees. The room really was (warm). Credit either	26	25
He ate spinach, mashed potatoes, a poached egg.	77	74
brown bread and butter, a big juicy dill (pickle) and a baked apple with cream	41	39

TABLE III (continued)

Test item	No. of pupils making correct response	Percent
His mother gave him a cup of (tea) with lots of sugar in it.	75	72
John was a brave boy and (quickly pulled) out the splinter.	7	6
The stick was in such bad condition that he worked on it until (ten) o'clock.	51	49
But John was most unfortunate, for the next morning when he woke up he had a sore throat and when he told his mother she sent for the doctor. Credit either	28	26
John knew he was missing important work at school and all the fun out of doors on ice, but he did as he was told without fussing	14	13
Story F		
They went to Alice's house first, stopping there to get their feet dry.	21	20
Some of them did not write very well so the girls had to moisten them with their (lips)	50	48
Her mother gave each of them some bread and butter.	54	51
She was not at all sleepy but went up stairs and started to get ready to go to bed.	16	15
She decided she would take a bath so filled the tub with warm water.	42	40
Alice liked to (stay) in the warm, soapy water, but jumped out and rubbed herself dry with a big rough towel.	27	25
She put on a clean nightgown and got into bed just as the clock struck eight.	28	26
She (forgot) to open the window...	20	19
Story G		
Both the boys were invited but Dick had a queer feeling in his throat and thought he was going to have a sore throat and a cold and then his mother would not let him go to the party.	11	10

TABLE III (continued)

Test item	No. of pupils making correct response	Percent
Teddy said at last, "(Don't) tell your mother how your throat feels and (even) if it does hurt tomorrow keep quiet about it. If you don't tell anyone no one will know about it and you can (go) to the party (just the same)". Credit either	6	3
He took a bath and put on his clothes.	37	35
His mother told him he looked all right except his finger nails. He must clean them and then he could go.	29	27
It took him a long time to get them cleaned because he (did not) do them very often	8	7
"No", he said, "I can't go to the party with you. I really have a cold and sneeze all of the time."	1	.9
He had (three) pieces of cake, (lots) of candy and(two) dishes of ice cream.	16,23 10	15,22 9
After eating so (much) at the party he (couldn't) eat any supper. Credit either.	15	14

APPENDIX D

Original Data-Gathering Forms Used as Basis for Interviews Involving All Phases of a School Health Program

Form M: Director of Health and Physical Education in City Schools

Form N: School Psychologist

Form O: Principal

Form P: School Nurse

Form Q: School Physician

Form M

Director of Health and Physical Education

in City Schools

DIRECTOR OF HEALTH AND PHYSICAL EDUCATION
IN CITY SCHOOLS

1. What is the administrative organization of Health Education in the Public Schools of the city?

2. Does the school assume responsibility for administration of Health Service Program?

3. Is there anyone on the Health Service Program under direct supervision of the Director's office?

4. Are problems of Health Service met jointly by School Administration and Public Health Service?

5. Does the administration have any policy relative to the use of the findings of the health examination in the classroom?

6. Does the Director's Office receive yearly, monthly, weekly reports concerning health service work in the schools?

7. Does the school system have an organized health curriculum?

8. If so, when was it planned and who planned it?

9. Do teachers have any part in planning?

10. Are printed forms of health curriculum available? If so, secure one.

11. Are teachers supervised in their teaching of health education in the schools? If so, by whom?

12. Are there any attempts to measure achievement of pupils in elementary grades with regard to health education?

Form N

The School Psychologist

THE SCHOOL PSYCHOLOGIST

1. To whom are you directly responsible in your work?

2. What is the nature of your work?

3. What is your relation to the classroom teacher?

4. Do you assist the classroom teacher in the solution of the behavior problems arising in the classroom?

5. What is the status of the school in relation to other schools throughout the city with regard to scholastic achievement?

6. Is there any attempts made to place pupils according to ability grouping?

7. What tests are used to determine mental ability and achievement?

8. Is there any attempt to discover the mental defective early in his school career?

9. What is the procedure in dealing with persistent behavior problems?

10. What is the procedure in administering corporal punishment?

11. Is this procedure determined by school law?

12. Do you feel that the teachers handle their behavior problems competently?

Form O

The Principal

THE PRINCIPAL

I. Philosophy of The Administration

1. Approximately what part of your school day is spent in administrative duties? Supervision? Visitation?

2. Is your observation during class visitation directed toward health activities?

3. Do you feel that the health instruction in the class room is adequate?

4. Do you?

5. What is your opinion concerning the qualifications of your teachers to teach health properly?

6. How often do you emphasize daily inspection to the teacher's as a group?

7. Do you think it worthwhile to take measures to increase the effectiveness of health instruction?

8. Have you attempted any new measures?

9. Are you acquainted with any of the health studies made by the Community Chest of the West End District?

10. What part should Stowe School have in raising the health standards as revealed by these studies over a long period of time?

11. What is the health status of the average pupil?

12. Do you feel that it compares favorably with the average child of other schools in the city?

13. In your opinion what position should the health service department occupy in the school? Separate unit? Part of the school organization?

14. What is your reaction to the school assuming the responsibility of the health habits, attitudes, and knowledge of its pupils? Favorable? Unfavorable?

15. Have you sought the aid of any outside agencies in solving your health problems?

16. Do you think the Parent-Teacher Association should be used for the discussion of the health of the child?

17. Have any attempts been made to supply the parent with facts and to teach them methods of child care?

18. Would you favor a supervisor of health in your building with the same status as any other specialist?

19. Are the health activities of the school of a social relief or an educational nature?

20. Remarks/

II. Teacher Inspection

1. Is daily health inspection carried out in all grades?

2. What items are included in individual daily health inspection? Are these items and directions printed and in the hands of the teachers? (Secure copy)

3. Does teacher conduct class inspection as well as individual inspection in each room?

4. Are children encouraged to make their own daily cleanliness inspection?

5. Does the school physician ever supervise the daily inspection of the teachers?

6. Is the nurse encouraged to supervise daily inspection?

III. First Aid

1. Is the building provided with a First Aid Kit?

2. Where is it kept?

3. Is it available at all times during the day? Yes. No.

4. Under whose supervision?

5. Are all teachers instructed in First Aid Treatment? Yes. No.

6. Are there cots available?

7. Are a pair of crutches available?

8. If no First Aid Kit is handy, what is the procedure if child is injured?

IV. The Organization of The School Day

1. What provisions are made for the dull child? The bright child? The average child?

2. Who determines the classification?

3. What special teachers do you have?

4. Do all of the primary grades have the same schedule? Intermediate Grades?

5. What are the relative positions of difficult and human interest subjects in your daily schedule?

6. How much time is approximately given each subject? Primary Grades? Intermediate Grades?

7. How often do you have teachers meetings? Are they used for supervisory purposes?

8. What is the length of the school day for kindergarten? Primary grades? Intermediate Grades?

9. Is the program so arranged as to provide for rest periods in the middle of each session?

10. Is home study given by the teachers?

11. Are there provisions for music, art, play, and social activities?

Form P

The School Nurse

THE SCHOOL NURSE

I. Health Examination

1. What is the nature of your assistance to the examining physician? Nurse? Recorder?

2. What length of time is given to each child in the examination?

3. Is the examination complete enough? How would you change it?

4. [illegible] examination used to [illegible] children?

5. Is same examination given to elementary pupil as to the junior high school pupil? (Secure blanks)

6. Is child stripped? Partially?

7. Does law forbid it?

8. Are health examinations given to children desiring work permits?

9. Does the school receive a health record of a pupil transferring from another? Any difficulty?

10. If parents are not present at the examination, are they notified of results? By health card? By house visit of nurse?

11. Where are health records kept?

12. Is a cumulative card used? (Copy)

13. Does a school physician examine the pre-school child?

14. Does your policy permit the attendance of mothers during the examination of the elementary school child? The kindergarten child?

16. Are you required to keep a record of the hourly distribution of your time?

17. Approximately what percent of your time is spent in home visitations?

18. Are teachers informed of defects in child? Yes. No. Verbally?

19. Is parent given printed directions for procedures in case of pediculosis, scabies, ringworm?

20. Is parent informed of your proposed visits? Form letter? Personal note? Telephone?

21. Who furnishes your transportation?

22. What are the average number of weekly visits to hospital? Clinics?

23. Who completes your daily and weekly schedule?

24. Children with what defects are assigned to special rooms?

25. Does school provide information on general care of common illness through Parent-Teachers Association? What? Printed? Lectures?

26. Does school require signed permission from parent in cases of correction?

II. Follow-Up

1. To what sources does the health service look for correctives of defects found in elementary children? Clinics? Hospitals? School Physicians? Private Physicians?

2. What disposition is made of the child who has non-correctable defects?

3. Are parents asked to aid in this program?

4. Do you record and report all visits to house? With what approximate outcomes or results?

5. If the children are sent to hospitals and clinics for correction of defects, do they receive prompt attention?

6. Who accompanies child to the clinic? Nurse? Teacher? Relative?

7. How is the clinic notified? Form letter? Telephone? Visit by nurse? (If form letter, secure one)

8. Does any type of form letter or card accompany child to clinic or hospital? (Secure one)

9. Is it returned to you? What is done with it then?

10. Do you have definite information regarding child's defect when you visit the home?

11. Can you supply any evidence to show that your visits have had a favorable effect u on the home-school relationships?

12. Are home conditions included in your reports of home visits?

13. Does the school administration make use of these reports?

14. To what extent is a child withdrawn from school with a known defect or a suspected infectious disease followed up by other agencies at your institution?

15. Do you address groups of parents from time to time?

15. Are kindergarten teachers present during the examination of kindergarten children?

16. Is the present examination adequate? How could you change it?

17. What constitutes, in your policy of health examinations, a defect serious enough for correction?

18. Is health examination preceded by general medical inspection early in year by teacher, nurse, and physician?

19. To what extent is child with remedial defects informed of his condition?

III. Relationships

1. To what extent does the teacher cooperate in program for correction?

2. To what extent do you go for visit teachers? Interviews?

3. Does the health service department cooperate with social service agencies in follow-up work?

4. Is there any evidence to show that the health service is a part of the school program?

5. Are you invited to teacher-meetings?

6. Have you ever been asked to explain the health problems of the average three School pupil to the teachers as a group?

7. Has the principal ever consulted you as to the health status of the average pupil?

8. Are there any attempts to raise money for health projects?

9. What part do you have in these attempts? Chairman? Worker?

10. Do you feel free to offer suggestions as to how the money raised should be spent?

11. What outside agencies have you called in to help in the health problems of this school? Luncheons?

12. What suggestions do you have for the improvement of the status of the health service department in the school program?

Form Q

The School Physician

THE SCHOOL PHYSICIAN

1. To whom are you directly responsible in your work?

2. What is your daily routine?

3. How often do you visit each school?

4. Is all of your work confined to School Health Service?

5. Who assists you in giving the School Health Examination?

6. Are you a member of the local Medical Association?

7. What part do you play in the Summer Round-up?

8. Do you have a standard as to what constitutes a defect in the present school situation?

9. Does the principal receive a report of your work?

10. Do you feel that sufficient time is allowed for an adequate examination?

11. Are conferences held with the classroom teacher?

APPENDIX E

Regulation Forms Used in Stowe School for the Administration of Health Service

Form R: Nurse's Monthly Report to Board of Health.

Form S: Letter Notifying Parent of Defects or Exclusion

Form T: Nurse's Home Visit Recording Sheets

Form U: School Health Record

Form W: Application for Dental Service and Dentist's Record

Form X: Request for Glasses

Form Y: Oculist's Report

Form Z: Teachers' Referral Blank and Follow-Up Letter for Excluded Cases.

Form AA: Vaccination Blanks

Form AB: Symptom Card

Form AC: Request Blank for Toxoid Treatment

Form R

Nurse's Monthly Report to the

Board of Health

CINCINNATI DEPARTMENT OF HEALTH

School _____ Month _____

MONTHLY SCHOOL REPORT
of
DOCTOR and NURSE

Name _____ Name _____

Weighed and Measured	NEW DEFECTS FOUND		RE-EXAM. of OLD CASES	DEFECTS BROUGHT to ATTENTION OF	
Head Insp'n	In Exam. of Children REFERRED to School Dr.	In ROUTINE Exam.		PRIVATE PHYS.	HOSPITAL or CLINIC
Absentee Insp.					
Communicable D					
Defective Vision				G	
Dis. of Eyes					
Acute Conjunctivitis					
Def. Hearing					
Dis. of Ears					
Defective Teeth					
Dis. Tonsils & Adenoids				S	
Disease of Resp. Tract					
Susp. TBC					
Malnutrition					
Enl. Thyroid					
Other Glands					
Cardiac					
Nervous System					
Orthopedic					
Pediculosis					
Scabies					
Impetigo					
Other Skin Diseases					
Venereal					
Minor Surgical or Misc.					
TOTALS					

Referred by Teachers, Etc.		Excluded	
Total Routined			
Exam for Athletic Events		Permits Refused	
Vaccinated		Diphtheria Im.	
Conferences at School		Group Conference	
Addresses to:	P.T.A.	Classes	Teachers Others

Form S

Letter Notifying Parent of Defects of Exclusion

Form S

Letter Notifying Parent of Defects or Exclusion

FORM 25X REV. 25M 7-37

Cincinnati Health Department

Date.....

This notice { Excludes / Does not exclude } The child from school

An examination of .....

Reveals .....

He / She } Should.....

When the family physician has been consulted his diagnosis and recommendations are requested for statistical purposes.

Diagnosis.....

Recommendations.....

.....

Signed.....M.D.

Date.....193

Form T

Nurse's Home Visit Recording Sheet

Nurse's Home Visit Recording Sheets

Form T

NURSES FIELD BOOK

ADDRESS _____ FI.

NAME _____

CASE NO.	GIVEN NAME	AGE	

REMARKS

RECORD OF VISIT

DATE	TIME	INSTRUCTIONS

FORM N 11 5M 2 35

Form T

NURSES FIELD BOOK

ADDRESS _____ FI.

NAME _____

CASE NO.	GIVEN NAME	AGE	

REMARKS

RECORD OF VISIT

DATE	TIME	INSTRUCTIONS

Form U

School Health Record

School Health Record Form U

DEPARTMENT OF HEALTH **SCHOOL HEALTH RECORD** CITY OF CINCINNATI

NAME _____ SCHOOL _____

ADDRESS _____ DATE OF BIRTH _____ SEX ____ RACE ____

NATIONALITY of PARENTS _____ OCCUPATION _____ NUMBER OF CHILDREN IN FAMILY _____

HISTORY (MEDICAL) MEASLES ____ DIPTHERIA ____ SCARLET FEVER ____
WHOOPING COUGH ____ PNEUMONIA ____ RHEUMATISM ____
TONSILLITIS ____ TUBERCULOSIS CONTACT ____

PHONE

IMMUNIZATION
SMALLPOX VAC. DATE _____ DIPHTHERIA DATE _____
POSITIVE IMMUNITY REACTION _____ TOXOID DATES _____
OTHERS _____

GRADE — ROOM	KG.		1ST		2ND		3RD		4TH		5TH		6TH		7TH		8TH	
YEAR																		
HEIGHT																		
WEIGHT																		
NORMAL WGT.																		
PERCENT UNDERWGT.																		
DATE of EXAMINATION																		
COMMUNICABLE DISEASES																		
DEFECTIVE VISION-R. L.																		
DISEASE of EYE																		
DEFECTIVE HEARING-R. L.																		
DISEASE of EAR																		
DEFECTIVE TEETH																		
DIS. TONSILS AND ADENOIDS																		
DIS. of RESPIRATORY TRACT																		
SUSPECTED TUBERCULOSIS																		
MALNUTRITION																		
ENLARGED THYROID																		
CARDIAC																		
NERVOUS SYSTEM																		
ORTHOPEDIC																		
SKIN																		
MINOR SURGICAL																		

Form V

Public Health Clinic Referral Blank

DISPENSARY REFERRAL BLANK

HEALTH CENTRE

Date_____

Agency Referring Case_____
Worker_____
Tel. No._____

Name of patient_____
Address_____
Date of birth_____ Age_____ Sex_____ Race_____
Place of birth_____ Nationality_____ Length of Res._____
City_____ County_____
Religion_____ Church_____
School_____ Grade_____

Members of Household	Age	Relation to Patient

Income of family _____ per week. Sources_____
Rent_____ Number of rooms_____ Floor_____ Front or Rear_____

INFORMATION FOR PHYSICIAN

Reason for referring case_____

Significant facts about environment_____

Significant facts in family and personal history physical and social_____

Previous medical attention (dates and places) _____

MEDICAL REPORT

Date_____

Diagnosis_____

Recommendations as to:- School - Home Care - Hospitalization
Working Capacity - Medication - Dist.
(Note - Worker please underline recommendations wanted).

_____

(Physicians Signature)

Form W

Application for Dental Service

and Dentist's Record

Application for Dental Service

Form W

BOARD OF EDUCATION **PUBLIC DENTAL SERVICE SOCIETY**
CINCINNATI, OHIO

APPLICATION FOR DENTAL SERVICE

Patient's Name_____ Age____ Sex____ Race____
Address_____ Phone____ Suburb____
Dentist who did last work_____
Parent's Name_____ Occupation____
Where employed_____ Salary per week $____
Total family income per week $____ If unemployed, how long?____
Number of children in school or under school age____ Other dependents____
Their relationship_____

(City Ordinance No. 237-1937) False Statements made to get Free Dental Service are Punishable by Fine and Imprisonment.

"I do hereby request that such dental attention be given this child as may be thought necessary by the dental operator in charge.

Parent's Signature_____

REFERRING PARTY WILL FILL IN BELOW

Family receiving help from charitable organization? Yes____ No____
Do you recommend applicant for dental service?____
School_____ Grade____
Date referred____ Authorized Signature____

NOTICE! Fill Out Application Completely Before Returning

PRINTING VOCATIONAL HIGH SCHOOL

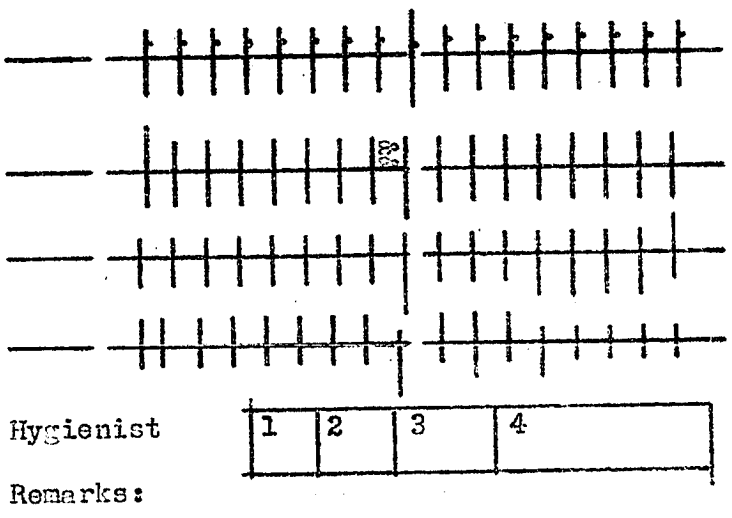
Dentist's Record

Form W

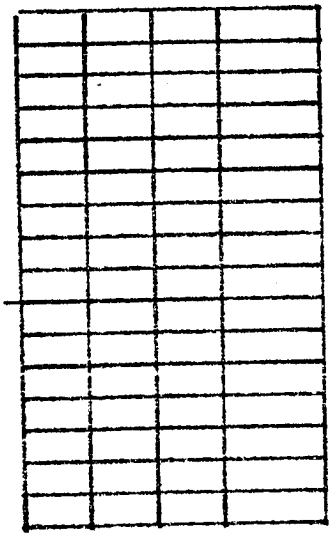
DENTAL CHART

Board of Education — Public Dental Service Society

Name — Age — Grade
School — Race — Room
Date



Gums



Hygienist

1	2	3	4

Remarks:

Form X

Request for Glasses

Request for Glasses **Form X**

REQUEST FOR GLASSES

NAME OF CHILD _____ ADDRESS _____

SCHOOL _____ AGE _____ PREVIOUS ADDRESS _____

MAN OCCUPATION WAGES

WOMAN OCCUPATION WAGES

CHILDREN

EYES REFRACTED AT PRESCRIPTION

Form Y

Oculist's Report

Form Y

Cincinnati Public Schools

Department for Sight Saving

Oculist's Report

Name_____ Address_____

School_____City_____Grade_____Age_____Sex_____

	O.D.	O.S.
Vision without glasses		
Cornea		
Fundus Examination		
Error of Refraction under the Mydriatic		
What correction ordered?		
Vision with glasses		

What is your diagnosis of this child's condition?_____

What is the probable cause?_____

In your opinion is the condition stationary?_____

Recommendations for Eye Care:-

Recommendations for Placement:-

Sight Saving Class_____with glasses_____without glasses___Braille Class

_____

Examiner_____

Address_____

Date of examination_____

Form Z

Teacher's Referral Blank and Follow-Up Letter for Excluded Cases

Teacher's Referral Blank **Form Z**

TO BE FILLED IN BY TEACHER

Name _____ Age _____

Residence _____ Grade _____ Room _____

Reason for referring child to School Physician _____

_____

_____

Teacher's Name _____

TO BE FILLED IN BY SCHOOL PHYSICIAN

Condition found _____

Action taken: Excluded, referred to Nurse _____

_____

Physician _____

Follow-up Letter for Excluded Cases **Form Z**

DITY OF CINCINNATI
OFFICE OF
DEPARTMENT OF HEALTH

Cincinnati, Ohio _____ 193____

Dear Mrs._____

_____was excluded from school for_____. If treated diligently your child should be back in school within a reasonably short time. Please have_____ report to the school physician at ____o'clock_____193____so that we may know what progress is being made.

Wm. H. Peters, M.D.
Health Commissioner.

Form AA

Vaccination Blanks

Request Blank to Parents for Vaccination — Form AA

DEPARTMENT OF HEALTH

In accordance with the regulations of the Board of Health, all children attending public, private or parochial schools must show satisfactory evidence of having been successfully vaccinated.

Upon examination, it is found that your child does not show such evidence; therefore, it is necessary to give the matter your immediate attention.

The vaccination may be done by your family physician or by the district physician at school. If you desire to have it done at school, please sign statement below and return it to school.

_____ Principal.

It is my wish that _____ be vaccinated by the district physician.

_____
Signature of parent

Vaccination Report — Form AA

VACCINATION REPORT

Name..... (Last) (First)

Residence.....

Age..... Sex..... Color..... School.....

Date	Result
.....	.....
.....	.....
.....	.....
.....	.....

Remarks:

.....M. D.

Form HD-605 5M 2-37

Form AB

Sympton Card

I M P O R T A N T

HANG THIS ON THE WALL

Parents look your children over every morning before sending them to school to see if they show any symptoms of contagious diseases.

LOOK FOR THESE THINGS:

Read and running eyes
Running Nose
Coughing and sneezing
Severe pain
Dizziness or faintness
Swelling about the neck
Sore throat
Unusual paleness
Earache or running ears
Feverish appearance (if possible take temperature with clinical thermometer)
Rash
Nausea, vomiting or diarrhea
Tiredness, irritability or crossness, or other change in child's usual behavior

If your children show any of these symptoms, do these things:

1. Keep them at home from school
2. Keep them quiet and by themselves

Distributed under the auspices of the Cincinnati Council of Parent-Teacher Associations, with the cooperation of the Public Health Federation, The Cincinnati Department of Health, and the Public and Parochial Schools.

Remember it is always safest to notify a doctor early when your child is sick.

Form AC

Request Blank for Toxoid Treatment

Request Blank for Toxoid Treatment Form AC

BANISH DIPHTHERIA FROM CINCINNATI

Because diphtheria can be prevented so easily, we again urge those charged with the care of children to go to the family doctor for treatment. Toxoid prevents diphtheria. If you are unable to pay for medical service sign the attached slip and bring the children to the office designated by the public health nurse for treatment.

F. K. Harder
Acting Health Commissioner

R E Q U E S T S L I P

I desire to have my child_____ Age_____ Years

Protected against diphtheria by Toxoid Treatments and tested for protection by Schick Tests.

(PARENT OR GUARDIAN SIGN HERE)_____

_____

Nurse's Name_____