ABSTRACT

WHAT DO YOU THINK ABOUT YOUR SCHOOLS:
A STUDY OF THE DETERMINATION OF
DISCRIMINATION AND RELIABILITY
INDICES AND THE ESTABLISHMENT
OF MICHIGAN NORMS

By

Gary F. Alkire

Purposes of the Study

The purposes of this study are three-fold: (1) to determine the ability of the What Do You Think About Your Schools to discriminate between the responses of elementary pupils, secondary students, parents, patrons, and faculty within and between cost quartiles; (2) to establish the instrument's reliability; and (3) to establish Michigan norms for the What Do You Think About Your Schools.

Two major hypotheses are formulated to test the discriminating ability of the instrument within the four financial support quartiles and between the five batteries by each financial support quartile. The two major hypotheses are:

1. The What Do You Think About Your Schools instrument will discriminate between the attitudes of elementary pupils, secondary students, parents, patrons, and faculty on the basis of financial support quartiles of Michigan

school districts (K-12). Financial support quartile is defined in terms of size, effort, ability, and expenditure.

2. The What Do You Think About Your Schools instrument will discriminate between the responses of elementary pupils, secondary students, parents, patrons, and faculty within fourth, third, second, and first financial support quartiles of Michigan school districts (K-12).

To improve the precision of the instrument two additional studies were done: (1) a study of item reliabilities, and (2) the establishment of norms for the total sample of school districts. These two studies established the stability of the instrument from test to test and provided a norm population against which users of the instrument could make comparisons.

Sample and Design

The sample was selected on the basis of a stratified random sample of Michigan school districts (K-12). The sample included two districts in the fourth quartile, two districts in the third quartile, four districts in the second quartile, and six districts in the first quartile. A one per cent sample of fourth quartile, a two per cent sample of third quartile, a five per cent sample of second quartile, and a ten per cent sample of first quartile were taken to determine the number of respondents for the respective districts. Useable data were collected

from 3,057 respondents representing 882 elementary pupils, 869 secondary students, 739 parents, 480 patrons, and 87 faculty members. Ten per cent of each battery was identified with code numbers for re-testing within three weeks as a check on instrument reliability.

Instrumentation and Data Collection

Data for this study came from two sources: (1) the Michigan Education Association's Ranking of Michigan High School Districts by Selected Financial Data for 1966-67, and (2) the responses to the five batteries of the What Do You Think About Your Schools.

The financial data on size, effort, ability, and expenditure were organized by quartiles and a composite quartile was derived from the four financial characteristics. This procedure equated the districts within each quartile.

The measurement of attitudes was obtained through responses of elementary pupils, secondary students, parents, patrons, and faculty to the instrument, What Do You Think About Your Schools. This instrument is based on the assumption that attitudes of the school community can be measured with precision. Each battery varies in the number of items asked, but nineteen items are responded to by all groups. The total number of items for each battery is: (1) elementary pupils--37, (2) secondary students--

45, (3) parents--53, (4) patrons--31, and (5) faculty--60. Each battery consists of six categories, dealing with some aspect of the school program. The six categories are: (1) satisfaction with schools, (2) school program, (3) essential services desired, (4) school organization and size, (5) school plant, and (6) community relations. The respondent indicates his choice to the item by checking a four-point value scale. The scores are dichotomized to indicate percentage of favorable and unfavorable response for each item.

Each district in the sample was visited by the researcher. The instruments were distributed with the cooperation of administrators and teachers to sixth graders, twelfth graders, parents of sixth graders, patrons who were neighbors of sixth graders, and teachers. An analysis of the returns for each battery included: (1) elementary pupils--96.7%, (2) secondary students--95.3%, (3) parents--81%, (4) patrons--52.6%, and faculty--100%.

Method of Treatment and Analysis

Testing the two hypotheses required the use of a statistical test for non-parametric data, since the responses were reported in percentage of favorable response. The following tests of significance were used:

1. The Chi Square (X^2) was used to test the significance of difference between the percentage of favorable

response by item for fourth, third, second, and first financial support quartile districts within each battery.

2. The Chi Square (X^2) was used to test the significance of difference between the percentage of favorable response by item for elementary pupils, secondary students, parents, patrons, and faculty within fourth, third, second, and first financial support quartile districts.

Three other statistical procedures were undertaken to increase the precision of the instrument.

1. Item reliabilities were determined for the consistency of the first testing to the second testing for a ten per cent sample of the total sample using a Pearson product-moment correlation method.

2. Estimates of battery reliabilities were computed using a Spearman-Brown prophecy formula for estimating total battery reliability.

3. State norms were computed for the total sample of Michigan school districts by the application of the standard error of a percentage at the 95% confidence level.

Major Findings

The major findings of this study were:

1. The What Do You Think About Your Schools instrument does not discriminate between fourth, third, second, and first financial support quartile districts on the majority of items. The percentage of significant items

for each battery was: (1) elementary pupils--32%, (2) secondary students--27%, (3) parents--25%, (4) patrons--13%, and (5) faculty--10%.

2. The What Do You Think About Your Schools instrument did discriminate between elementary pupils, secondary students, parents, patrons, and faculty within each financial support quartile. An analyses of the four quartiles indicate the following percentage of significant items: (1) fourth quartile--61%, (2) third quartile--59%, (3) second quartile--72%, and (4) first quartile--77%.

3. The What Do You Think About Your Schools instrument produced item reliability coefficients ranging from a high of .88 for facultys' response to "Teacher Gives Help" to a low correlation of -.19 for facultys' response to "Parent-Teacher Relations." Of the total 229 items for the five batteries, only 27 were below .50.

4. The What Do You Think About Your Schools instrument produced the following estimates of battery reliabilities: (1) elementary pupils, .92; (2) secondary students, .95; (3) parents, .94; (4) patrons, .84; and (5) faculty, .94.

5. The What Do You Think About Your Schools instrument produced useable norms for the State of Michigan at a 95% confidence level. The standard error of a percentage was applied to each item providing a range of percentages to which users of the instrument could make comparisons.

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DEDICATION

To my loving wife and children

Ingrid, David, and Heidi

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

CHAPTER I

THE PROBLEM

Purposes of the Study

The purposes of this study are: (1) the determination of the discriminating ability of the What Do You Think About Your Schools, an instrument used to measure the attitudes of elementary pupils, secondary students, parents, patrons, and faculty; (2) to establish the instrument's reliability; and (3) to establish norms for the instrument.

Significance of the Problem

The need for evaluation of the school curriculum has been a continuing problem. Progress is evident, but much remains to be investigated before an objective measure of curriculum can be accomplished. It is a fundamental assumption of this study that curriculum can be delineated and measured. The American people have made significant contributions in financing public education and are demanding to know what they are getting for their money. This, coupled with the concern educationists and laymen have for the function of education

in society, requires the development of accurate instrumentation for assessment of educational program.

The difficulties in measuring curriculum are hindered by inadequate definitions of curriculum, changing educational patterns, variations in community characteristics, confusion over educational goals, and by social forces within our pluralistic society. The development of a theoretical model for the assessment of curriculum may establish a better basis for assessment and for deployment of limited resources.

Dr. Herbert C. Rudman[1] has conceptualized the school curriculum as consisting of four constituent elements: (1) educational program, (2) educational services, (3) organization of the school system, and (4) the values for education held by elementary pupils, secondary students, parents, faculty, and adults in the community who do not have children in the public school system (patrons).

The first three criteria lend themselves to systematic description. The child's educational program consists of course offerings and laboratory experiences (i.e., Fine Arts, Home Economics, Physical Education, field trips, foreign language laboratories, science

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[1]Herbert C. Rudman, "The Curriculum" (unpublished report, Michigan State University, East Lansing, Michigan, February 12, 1968), p. 1.

laboratories, and the like). The educational services consist of administration, supervision of teachers, lunch programs, transportation, libraries, testing programs, counseling and guidance, etc. The organization of the school district refers to the actual manner in which school functions are carried out at the classroom, building, and district levels. This has a profound influence on the effectiveness of educational programs and services within the school district. The remaining variable is the values held by the various members of the community. These values reflect the expectations and, therefore, the outcomes of the curriculum in many cases. It is this facet of curriculum assessment that has proved most troublesome for accurate measurement.

The Educational Characteristics Criterion (ECC) was developed and tested by Rudman,[2] Kraft,[3]

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[2]Herbert C. Rudman and Stanley E. Hecker, "The Determination and Measurement of Factors Which Directly or Indirectly Affect Quality of an Educational Program" (unpublished proposal, Michigan State University, East Lansing, 1961).

[3]Leonard E. Kraft, "The Perceptions Held by Professors of Education, Professors in Areas other than Education, and School Board Members on Ninety Factors Which May or May Not Affect the Quality of an Educational Program" (unpublished Ed.D. dissertation, Michigan State University, 1962).

Berg,[4] Mueller,[5] Springer,[6] and Pelton[7]. This instrument was used to measure educational quality. Educational quality was defined as those educational characteristics of school and community which are perceived effective in accomplishing the goals of public school education. The judgments of educational experts were found to agree on fifty-six characteristics which a good school program should contain. It was found that a significant correlation existed between quality education, as defined by experts, on the one hand and teachers and administrators on the other. When school districts were classified on high and low financial support quartiles, the ECC discriminated between districts on the basis of financial support with a high degree of reliability. A set of

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[4]Arthur D. Berg, "The Determination of the Discrimination and Reliability Indices of the Educational Characteristics Criterion with Implications Concerning Educational Cost-Quality Relationships" (unpublished Ph.D. dissertation, Michigan State University, 1962).

[5]Van Dyck Mueller, "A Study of the Relationship Between Teacher-Administrator Perceptions of Education Quality as Measured by the Educational Characteristics Criterion (ECC) and Selected Cost Factors" (unpublished Ed.D. dissertation, Michigan State University, 1964).

[6]Owen Springer, "A Study of the Relationships Between the Educational Characteristics Criterion (ECC), the Stanford Achievement Test, and Selected Cost Factors" (unpublished Ed.D. dissertation, Michigan State University, 1964).

[7]Maurice D. Pelton, "A National Analysis of Educational Quality as Measured by the Educational Characteristics Criterion (ECC), Achievement, and Selected Cost Factors" (unpublished Ed.D. dissertation, Michigan State University, 1966).

norms based upon ECC responses were established for school districts in high and low financial support quartiles. This information provided an objective measure of the community attitudes variable as it related to total curriculum assessment. Future curriculum studies would have an objective base for comparison of school district educational programs.

The major difference between the ECC and the What Do You Think About Your Schools is the factor of educational quality. The ECC provides a quality measure based on the judgments of educational experts in relationship to financial support quartiles. The purpose of this study is to base the attitudes of elementary pupils, secondary students, parents, patrons, and faculty on financial support quartiles to add another dimension to the assessment of the school program. The What Do You Think About Your Schools makes no assumption that the attitudes of the respondents are directly related to quality. Rather, the attitudes of the respondents can give a more complete picture of the total values held by the community. If these attitudes reflect a consistent discriminating ability--as measured in terms of financial support quartiles--a better assessment of the curriculum can be derived. Norms can be established for each financial support quartile by the application of statistical limits of probability for each school district

assessed, and future applications of the batteries can have real meaning in terms of curriculum development.

Assumptions of this Study

This study assumes that the curriculum assessment model developed by Rudman is workable. There are many theoretical models for curriculum assessment, but Rudman's exhibits a more pragmatic approach in terms of actual behavior observed in the public schools.

The school of perceptual psychology holds that individuals react to their environment as they perceive it. For purposes of this study, it is assumed that this theory is tenable, and that the attitudes of students, parents, patrons, and faculty will reflect the community's expectations of the educational program.

It is assumed that the attitudes of students, parents, patrons, and faculty can be accurately expressed regarding areas of the school program about which they have knowledge and opinions. It is also assumed that these attitudes can be classified into the following categories: (1) satisfaction with school, (2) school program, (3) essential services desired, (4) school organization and size, (5) school plant, and (6) community relations.

The basis for assuming the relationship between the factors of size, effort, ability, and expenditure and quality of the educational program is derived from the

results of research in the area of cost-quality relationships.[8] From this research it is assumed that there may be a similar relationship between the attitudes of the school community and size, effort, ability, and expenditure. Size of a school district is defined as the average daily membership (ADM) in grades kindergarten through twelve in the State of Michigan. Effort is defined as the total operational millage levied based upon the final appraisal of real and personal property valuation of school districts in the State of Michigan. Ability is defined as the total value of real and personal property of the school district divided by the average daily membership. Expenditure is defined as the amount of total dollars expended for elementary and secondary education in the school district divided by the average daily membership. This does not include expenditures for capital outlay and debt retirement. Financial Support Quartile is defined as a composite ranking by quartile of a school district according to size, ability, effort, and expenditure.

The classification of Michigan school districts according to size, effort, ability, and expenditure into quartiles gives a concrete base for developing item norms

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[8]For one example see, William S. Vincent, "Quality Control: A Rationale for Analysis of a School System," IAR Research Bulletin, Vol. I, No. 2 (January, 1961), pp. 1-7.

by school districts. The scores derived from the What Do You Think About Your Schools can be compared to a base population of school districts with similar financial support levels and a statement of statistical probability can be derived. If there is a wide divergence in district score from the norms established for a similar financial support district, statements of a diagnostic nature for that specific item can be made. A specific item will have meaning only when compared to districts of like financial support. The attitudes of elementary pupils, secondary students, parents, patrons, and faculty will give the total curriculum assessment model better data for judgments regarding the quality of the educational program.

Delimitations of the Study

The parameters of this study are delimited by the following factors:

1. The major variables in this study are the individual's attitudes, as measured by the What Do You Think About Your Schools and the cost factors of size, effort, ability, and expenditure as derived from the Michigan Education Association's, Ranking of Michigan High School Districts by Selected Financial Data for 1966-67.

2. The study is limited to a sample of fourth, third, second, and first quartile school districts in the State of Michigan. No results are drawn from individual school districts.

3. The statistical analyses are limited to determining: (1) the reliability of the What Do You Think About Your Schools, (2) the discrimination of items between elementary pupils, secondary student's parents, patrons, and faculty within quartiles, and (3) the discrimination of items between fourth, third, second, and first quartiles and each individual respondent group.

4. This study uses only selected financial cost factors and does not include all possible permutations of cost analyses.

5. The findings of a relationship between school-community attitudes and financial factors are viewed as associational and not causal.

6. The study assumes that the individual sampled will respond to the instrument with his true perceptions in regard to the school-community situation.

Definition of Terms

Public schools.--The term, "public schools" refers to Michigan elementary and secondary schools in school districts which maintain grades kindergarten through twelfth. Any school which receives full support of its program from state or federal sources will be excluded.

School district.--A school district is a legal entity created by the Michigan State Legislature for the purpose of operating and maintaining public education within the boundaries established by law.

State equalized valuation.--State equalized valuation is the final appraisal by the Michigan Tax Commission of the worth of real and personal property in the State of Michigan.

Mill.--A mill is the value of a tenth of a cent or thousandth of a dollar.

Size.--Size is the number of public school membership as computed on the fourth Friday following Labor Day of each year. All pupils, to be included must be at least five years old on December first.

Financial ability.--Financial ability is an expression of the state equalized valuation (SEV) divided by the total number of resident pupils. This figure shows the dollar amount in local equalized valuation behind each resident child.

Financial effort.--Financial effort is the number of mills levied on the state equalized valuation (SEV) for the purpose of operating the school district.

Financial expenditure.--Financial expenditure is the cost per pupil expended in operation of the school district exclusive of school board salaries, tuition expense, capital outlay, and transportation.

Financial support quartile.--A financial support quartile is a composite quartile ranking of a school district according to size, financial ability, financial effort, and financial expenditure.

Curriculum assessment.--Curriculum assessment or educational program assessment is defined as the measurement of a theoretical model of curriculum that encompasses educational program, educational services, school organization, and values held by the community toward the curriculum of the school district.

What Do You Think About Your Schools.--An instrument measuring attitudes of elementary pupils, secondary students, parents, patrons, and faculty concerning the educational program of the school district.

Elementary pupil.--An elementary pupil is a student enrolled in grades kindergarten through six in the public schools of Michigan. For the purposes of this study, an elementary pupil is defined as a sixth grader.

Secondary student.--A secondary student is a student enrolled in grades seven through twelve in a public school of Michigan. For the purposes of this study, a secondary student is defined as a twelfth grader.

Parents.--Parents are defined as father, mother or legal guardian of pupils in the public schools of Michigan.

Patrons.--Patrons are defined as taxpayers in a school district of Michigan who do not have children in the public schools.

Faculty.--Administrators and teachers of a public school in Michigan whose positions provide instruction or supervision of pupils in the public schools are defined as faculty.

Hypotheses

General Hypothesis I

The What Do You Think About Your Schools instrument will discriminate between the attitudes of elementary pupils, secondary students, parents, patrons, and faculty on the basis of financial support quartile of Michigan school districts (K-12). Support quartile is defined in terms of size, effort, ability, and expenditure.

Operational HIa.--The instrument will show ability to discriminate between fourth, third, second, and first financial support quartile districts on each item score according to elementary pupil responses.

Operational HIb.--The instrument will show ability to discriminate between fourth, third, second, and first financial support quartile districts on each item score according to secondary student responses.

Operational HIc.--The instrument will show ability to discriminate between fourth, third, second, and first financial support quartile districts on each item score according to parent responses.

Operational HId.--The instrument will show ability to discriminate between fourth, third, second, and first financial support quartile districts on each item score according to patron responses.

Operational HIe.--The instrument will show ability to discriminate between fourth, third, second, and first financial support quartile districts on each item score according to faculty responses.

General Hypothesis II

The What Do You Think About Your Schools instrument will show ability to discriminate between responses of elementary pupils, secondary students, parents, patrons, and faculty within fourth, third, second, and first financial support quartiles of Michigan school districts.

Operational HIIa.--The instrument will discriminate between responses of elementary pupils, secondary students, parents, patrons, and faculty on each item score for fourth financial support quartile districts.

Operational HIIb.--The instrument will discriminate between responses of elementary pupils, secondary

students, parents, patrons, and faculty on each item score for third financial support quartile districts.

Operational HIIc.--The instrument will discriminate between responses of elementary pupils, secondary students, parents, patrons, and faculty on each item score for second financial support quartile districts.

Operational HIId.--The instrument will discriminate between responses of elementary pupils, secondary students, parents, patrons, and faculty on each item score for first financial support quartile districts.

Research to Improve the Instrument, What Do You Think About Your Schools

The need for improving the precision of the instrument required that two additional studies be done: (1) a study of reliability by item, and (2) the establishment of norms for the total sample of school districts. These two studies would establish the stability of the instrument from test to test and would provide norm populations against which users of the instrument could make comparisons.

The study of reliability provides a reliability coefficient for each item on the elementary pupils, secondary students, parents, patrons, and faculty test batteries. To accomplish this objective, scores on the first test of a sample of each battery were correlated

with scores for the same sample and test three weeks later.

The establishment of norms for elementary pupils, secondary students, parents, patrons, and faculty were determined by total sample. The level of probability for the "true score" of the universe of respondents was estimated by computing the standard error of a percentage at the .95 level. This provides users of the What Do You Think About Your Schools a range of percentages of favorable response for the sample population to which other scores can be compared with .95 confidence.

Organization of the Thesis

This chapter has stated the purposes of the study, importance of the problem, the assumptions upon which the study is based, the delimitations of the study, the definition of terms, the general and operational hypotheses, and the research to improve the precision of the instrument.

Chapter II presents a review of related literature. This review includes theoretical models of curriculum assessment, development of various instrumentation for program assessment, and a report of significant studies relating to cost-quality relationships.

Chapter III deals with the instrumentation and methodology of the study. A complete description of the instruments used to collect the data, method of sample

selection, classification of cost factors, research design, and proposed statistical treatment of the data are presented.

Chapter IV presents the statistical tests and results of the data in relation to the hypotheses.

Chapter V presents the statistical tests and results of the studies to improve the precision of the instrument.

Chapter VI presents the conclusions, implications, summary and areas recommended for further research.

CHAPTER II

RELATED LITERATURE

In the last fifty years many studies and surveys have been undertaken to assess school programs. The majority of these studies and surveys have come from two fields of endeavor: (1) school finance, and (2) curriculum development. The first tends to have a broader outlook in describing and evaluating the total school program. The second emphasizes a narrower definition of school program, primarily the outcomes of subject-matter taught in the schools. Finance and curriculum experts have not been able to agree on mutually acceptable definitions and philosophical viewpoints, and therefore their models for evaluation differ.

It is the purpose of this chapter to analyze and summarize the important models and research that has been done on program assessment. Three major areas will be discussed: (1) the major models for curriculum or educational program evaluation, (2) empirical studies of cost-quality relationships, and (3) instruments used to evaluate school programs.

National Interest in Educational Assessment

The past decade has seen a ferment in American education. Much has been said and written on the strengths and weaknesses of our educational system. Seminars, conferences and legislative committees have investigated various aspects of the American schools in seeking improvement through new programs and evaluation. In a 1962 conference held by the United States Office of Education several statements were issued relating to education's role in society: (1) a nation's strength lies in the strength of all its people; (2) it is tested in the aspirations of its youth and the quality of its schooling; (3) our democracy is no stronger than the moral and intellectual fiber of our people; (4) our country can be no richer than our teacher's minds and our children's opportunities; (5) since the quiet strength and latent power of education is less tangible than arms and missiles, it has been more difficult to realize; and (6) American education has become the testing ground for democracy.[1]

A statement by the Committee of Economic Development echoed the above statements when it said:

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[1]United States Department of Health, Education, and Welfare, Education for Freedom and World Understanding, Bulletin OE10016 (Washington, D.C.: U. S. Government Printing Office, 1962), pp. 50-51.

> A democracy lives or dies by the ability of its people to choose wisely. We need better schools to teach us how to understand the alternatives before us, and how to choose wisely among the real alternatives.[2]

Much of the move to improve education has come through discussion of assessment programs. Rickover[3] in 1962 proposed to a House Committee that a national testing program be established to determine the educational levels of youth graduating from schools. He based his arguments on the policies of foreign countries, which have national testing programs, leading to valid diplomas. Rickover's concern for the allegedly falling standards of education and the wasted resources committed to vast numbers of youth who never finish their education prompted him to submit this suggestion.

As could be expected, the majority of American educators do not agree with this position. Stoddard exemplifies the majority opinion:

> Do we prefer what the Bonn government has set up--a system of examinations through which the decision to go to the university, or not to go is firmly made when a child is ten years old?--(The result: only one out of twenty pupils make the grade.)[4]

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[2]Ralph Lazarus, We Can Have Better Schools (New York: Committee for Economic Development, 1959), p. 4.

[3]Hyman G. Rickover, "Education for All Children" Hearing Before the Committee on Appropriations, House of Representatives, Eighty-Seventh Congress, 1962, p. 139.

[4]George Stoddard, "The Issues That Divide Us," School and Society, 86:237 (May 24, 1958).

McNeil suggested some of the reasons for opposition to program assessment by educators in general:

1. Educators are afraid the evidence will be collected only in respect to recall information and the competency of few skills.

2. Educators tend to be process-oriented. They believe teaching conditions are important and therefore make less effort to assess the learning that does occur from specific situations.

3. Educators distrust the way the results will be interpreted, knowing that a multitude of factors can be responsible for specific learnings.

4. There is the danger that favored practices and ideas may not prove to be valuable.[5]

Over the opposition, movement has been made toward a national assessment project. The Carnegie Corporation funded a project to construct instrumentation designed to assess education on a national basis. The major purposes of the project are: (1) to find the strengths and weaknesses of education on a regional basis for the whole nation, (2) to provide information to schools for research on educational problems, (3) to provide international

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[5]John D. McNeil, Curriculum Administration (New York: The MacMillian Company, 1965), pp. 115-116.

comparisons, and (4) to increase interest in education throughout the United States.[6]

Typical of the criticism pointed at national assessment are the observations made by Hand:

> . . . I am opposed to (1) a national testing program set up for purposes of comparing a school or schools in one district or region with those in other districts or regions, and (2) the way in which ECAPE is functioning. I am opposed to a national testing program set up for purposes of comparing schools chiefly because (a) it would set up new obstacles to realization of our goal of equality of educational opportunity, (b) it would be the nose under the tent which would be followed by a monstrous camel in the form of a centrally controlled curriculum, (c) it would stultify the curriculum, (d) it would stifle local innovation and experimentation in respect to the classroom, (e) it would result in unbearable pressures on classroom teachers and school administrators, and (f) it would encourage cheating on the part of students and teachers alike. I am opposed to the way ECAPE is functioning chiefly because it is violative of a cardinal principle of American democracy . . . namely, the principle of government by the consent of the governed.[7]

There is no doubt that the schools need to be assessed, but it is the manner of this assessment that differs from individual to individual. Vincent and Mac Gregor have reviewed various approaches to the assessment of schools: (1) Bestor uses the criterion of stability. This is to be expected, as Bestor is a

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[6]John W. Gardner, "A National Assessment of Educational Progress" (unpublished report, The Carnegie Corporation, April 23, 1965), p. 1.

[7]Harold C. Hand, "The Camel's Nose," Phi Delta Kappan, 47:9,12 (September, 1965).

historian and concerned with the culture and traditions of the past; (2) Zoll is concerned with economy--the minimum of funds necessary to carry on a basic program is all that is required; (3) Rickover wants more central control of education; (4) Conant is concerned with the equality of opportunity and therefore has promoted foundation-type programs for schools; and (5) educationists tend to judge schools by their adaptability. This means the currency of procedures and program utilized in meeting the needs of a changing society.[8]

The National School Boards Association and the American Association of School Administrators believe in evaluation and have established the following criteria: (1) evaluation should be based on stated objectives, (2) evaluation should be based on intimate and comprehensive knowledge of the community, (3) evaluation should be continuous, (4) evaluation should be comprehensive, (5) evaluation should involve many people, (6) evaluation should be positive as well as negative, (7) evaluation should use many methods, (8) evaluation should be based on knowledges of students, (9) evaluation should require the administration and board to look at itself, (1) evaluation should appraise staff policies, (11) evaluation is

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[8]William Vincent and Archie Mac Gregor, 1959 Review of Fiscal Policy for Public Education in New York State - Public Tests of School Quality (New York: New York State Educational Conference Board, 1960), pp. 1-2.

based on the belief that people make a difference, and (12) evaluation should bring forth improvement.[9]

America is concerned about the quality of its schools. It is the means that differ. A quote from Dewey is as relevant today as it was in 1900 concerning the quality of education:

> What the best and wisest parent wants for his own child, that must the community want for all its children. Any other ideal for our schools is narrow and unlovely; acted upon it destroys our democracy.[10]

Theoretical Models for Program Assessment

The Sequential Simplex Model of Mort and Furno

The Sequential Simplex Model is a statistical tool used to control gross differences among communities so that more subtle differences can be examined. The basic premise of this model is that the quality of a school can be viewed in concentric circles, with quality at the core. Around this core of quality is "The School" and its staff which have the most direct influence on quality. The next layer of the circle is the "School System Policy," which includes adequacy of salary, staffing

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[9]American Association of School Administrators and National School Boards Association, Judging Schools with Wisdom (Washington, D. C.: National Education Association, 1959), pp. 1-11.

[10]John Dewey, The School and Society (Chicago, Illinois: University of Chicago Press, 1900), p. 10.

ratios, and materials and supplies. The third layer is the "Educational Climate" which includes the socio-economic and financial factors of the community. The final layer is "Community Characteristics" represented by physical conditions, wealth, and socio-economic characteristics. Running through all these circles is the common core of quality.[11]

A school's overall quality can be determined by a "Quality Control Chart" which plots the school's position in relation to the four factors that influence total school quality. If the scores on various instruments depart significantly from the established norms, diagnostic measures can be applied. The instrumentation used to measure these four factors has been derived from studies and surveys conducted by Mort and his associates over the past 30 years. These instruments are correlated with the Growing Edge which is the established criteria for quality in the Sequential Simplex Model.

The major weaknesses of this model are: (1) the assumption that the Growing Edge is a good measure of quality. The Growing Edge is a measure of adaptability of innovative practices in schools, and therefore considerable doubt can be cast that this is a legitimate

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[11]Paul R. Mort and Orlando F. Furno, Theory and Synthesis of a Sequential Simplex (New York: Institute of Administrative Research, Teachers College, Columbia University, 1960), p. 15.

criterion for quality. Innovative practices are continuously changing. This has been particularly true in the last ten years when new programs and materials have flooded the educational market. A continuous up-dating of the instrument would be necessary to find out what is truly innovative in American education today; (2) the assumption that expenditure is an independent variable is also questionable. The research over the past years seems to indicate that expenditure is a dependent variable of school quality; and (3) the complex computations of correlations and multiple correlations makes the use of the model limited to persons with a high degree of statistical competency.

Experimental Appraisals of Curriculum Patterns--Smith, Stanley, and Shores

Smith, Stanley, and Shores (1950) represents a group of American educators, mainly curriculum specialists, that view the evaluation of school program in a limited fashion. Their major work, Fundamentals of Curriculum Development defines what they mean by curriculum:

> A sequence of potential experiences if set up in the school for the purposes of disciplining children and youth in group ways of thinking and acting. This set of experiences are referred to as the curriculum.[12]

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[12]B. Othanel Smith, William O. Stanley, and J. Harlan Shores, Fundamentals of Curriculum Development (New York: The World Book Company, 1950), p. 4.

The important words in this definition are "in the school." This implies that youth acquire most of their learning in a school situation.

Accepting this definition of curriculum, Smith, Stanley, and Shores outlined their model for curriculum evaluation:

1. The theory of the curriculum pattern must be stated clearly in order to be tested.

2. The social, psychological, educational, and physical conditions under which the curriculum pattern it to be tested must be clearly spelled out.

3. The anticipated results of the curriculum theory must be stated as hypotheses.

4. Data must be collected to ascertain whether or not the hypotheses derived from the curriculum theory were borne out by observed facts; for as these hypotheses are tested out, confirmed or invalidated by observation, the theory is affirmed or denied.[13]

Attention must be given to the attitudes, beliefs, and knowledges of all members of the community, but the validity of these factors cannot be established; therefore the authors believe the evaluator must progress without this knowledge.

After a summary of six important curriculum studies, the authors gave their conclusions of curriculum evaluation:

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[13] Ibid., p. 583.

> . . . the six prominent studies reported here, falls considerably short of meeting desirable standards of research design. In general, neither the curriculum theories under test nor the hypotheses that should have been derived from these theories were made explicit. As a consequence, those who examined this research have real difficulty in knowing just what propositions were proved or disproved.[14]

In reviewing this theory of curriculum evaluation several criticisms seem to be in order:

1. The definition of curriculum is much too limited. Children learn from all aspects of their environment. The school is one factor, but it is hardly all-inclusive.

2. Smith, Stanley, and Shores assert that community values cannot be measured, but other research indicates that an attempt can be made at evaluation of other factors influencing the schools, such as community values, finance, etc.

3. No measurable results are obtainable from this theory, therefore its value for comparisons or improvement is limited.

4. It leaves the reader feeling that nothing in the school program can be tested, because of the many variables, therefore evaluation of school program is a waste of time.

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[14] Ibid., p. 612.

School Program Assessment--Rudman

The school program assessment model used in this study and developed by Rudman was discussed in Chapter I. To review briefly, the school program consists of four major elements which can be objectively assessed: (1) the educational program, (2) the educational services, (3) the organization of the school, and (4) community attitudes and values.[15]

The use of objective measures to assess the elements of school program gives a pragmatic application to this theory. Schools can compare themselves to ideal models, state and national norms. As of this time instruments have been developed and tested to evaluate educational program, educational services, and teachers' and administrators' attitudes. This study hopes to add elementary pupils', secondary students', parents', patrons', and facultys' attitudes to the measurement of community values. The remaining factor of educational organization is still under study. Research is conflicting regarding the influence of school organization on total program quality. If measurable results for school organization can be obtained in the future, the total theory will be developed.

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[15]Rudman, "The Curriculum," p. 1.

Other Models for Curriculum Assessment

Most of the recent models for curriculum assessment define curriculum in a limited way, similar to Smith, Stanley, and Shores. The distribution of federal funds has dramatically increased the activity to construct models for the assessment of specific programs, but nothing has been done to give a broad view to total program assessment.

The major differences between models now developing seems to be the point of emphasis. Some of these models: (1) point to the importance of the teacher as a developer of curricula, (2) rely on the developer's intuition rather than his rational skills, (3) emphasize subject-matter-content goals as opposed to intellectual-process-and-skill goals, (4) go beyond the stated goals, and (5) incorporate plans for reassessing goals during and after the development phase.[16]

The movement is to define the problem in smaller units to which appropriate research techniques can be applied with success. Although this normally brings forth carefully drawn research studies there is some doubt whether the findings of these studies can be applied in the broad scope of school program assessment.

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[16]Robert S. Stake, "Testing in the Evaluation of Curriculum Development," Review of Educational Research, Vol. 38, No. 1 (February, 1968), p. 78.

Summary

1. There is extreme interest on all levels of American education to develop a systematic method for evaluating school systems.

2. No one model has been able to control all the variables that influence educational quality.

3. The various models stress different variables, whether they be finance, program, or subject-matter.

4. The trend in assessment is toward fragmentation of the school program to apply better controls for experimentation.

5. There is need for a comprehensive look at all segments of the school program to bring the various parts into a meaningful whole. Until this is accomplished little can be determined about the quality of schools at the local, state, or national levels.

Related Cost-Quality Studies

Early Cost-Quality Studies

There has been intense interest in the area of cost-quality studies since the early 1920's. Most of these studies follow the normative approach. They try to explain how schools differ at varying expenditure levels by placing a value statement on certain aspects of the school program.

One of the earliest studies with a normative framework was conducted by Ayres in 1920. He constructed a ten-item index to which he correlated state expenditures for the years 1896 through 1920. The Index had five expenditure items and five non-expenditure items. Ayres Index included:

1. Per cent of school population attending school daily.
2. Average days attended by each child of school age.
3. Average number of days the schools were kept open.
4. Per cent that high school attendance was of total attendance.
5. Per cent that boys were of girls in high school.
6. Average annual expenditure per child in school.
7. Average annual expenditure per child of school age.
8. Average annual expenditure per teacher employed.
9. Expenditure per pupil for purposes other than teacher's salaries.
10. Expenditure per teacher for salaries.[17]

Ayres found a correlation of .78 between the expenditure and non-expenditure items of his Index.

Norton in 1926 tried to ascertain the ability of the forth-eight states to support education. He found that high-expenditure states were: (1) spending more per

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[17]Leonard P. Ayres, An Index Number for State School Systems (New York: Russell Sage Foundation, 1920), p. 14.

pupils, (2) had better school plants, (3) had a longer school year, (4) had a higher preparation level for teachers, and (5) had a lower illiteracy ratio.[18] From these observations, Norton concluded that the level of education was higher in states spending more money on education.

Ferrell used an instrument to measure educational efficiency in 249 Kentucky county districts in 1937. His Index included:

1. Per cent average daily attendance was of the census.
2. Holding power as measured by the average sum of;
   (a) per cent eighth grade enrollment was of first grade enrollment.
   (b) per cent high school enrollment was of total public school enrollment.
3. Per cent of teachers employed who have had at least three years or more of teaching experience.
4. Per cent of teachers employed who have had a given amount of preparation.
5. Per cent of teacher in relationship to pupils.
6. Per cent of days in the elementary school was of 200 days.[19]

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[18]John K. Norton, The Ability of States to Support Education (Washington, D. C.: National Education Association, 1926).

[19]Thomas Ferrell, Relation Between Current Expenditure and Certain Measures of Educational Efficiency in Kentucky County and Graded School Systems, Contributions to Education No. 216 (Richmond, Kentucky: Eastern State Teachers College, 1937).

He found a correlation of .92 between quality, as measured by his Index, and expenditure. Schools with high expenditures had better holding power, smaller classes, longer school years, and better prepared teachers.

The weakness of these early studies is the rather obvious relationship of the criteria to expenditure. It is no wonder that high correlations were derived from items that are so directly related to the expenditure of the sampled school districts.

Studies at Various Expenditure Levels

Most of the significant studies of cost-quality relationships were undertaken by Mort and his associates from 1930 to 1960. These studies were primarily concerned with showing the public what they could expect from a certain level of expenditure. This also gave impetus to the concept of a foundation program for school finances. Later a relationship was found between scores on Mort's various instruments and the adaptability of innovation by school districts. Norms were developed for these instruments at various expenditure levels to show exactly what could be expected from a given dollar investment.

Studies of High Expenditure Levels

In a study by Vincent (1945) of expenditure in the State of New York a significant correlation was found

between expenditure and quality as defined by the Mort-Burke-Fisk Guide. The New York schools represented high expenditure schools in relation to national norms. Three samples were used: (1) 52 districts were visited by field workers who collected data on the 1091 item Guide, (2) 71 districts were mailed forms which contained data on 101 items, and (3) 216 districts were analyzed through State Department reports. From these samples a correlation with expenditure was found for 73% of the items on the Guide, 99% of the items in the mailed report, and 80% of the items on the State Department report. Vincent concluded that five trends could be associated with increased expenditure:

> (1) concern for the mastery of basic skills; (2) concern for the conditions of child growth; (3) attention to needs of the individual; (4) lack of dependence of teachers upon patent devices; and (5) increase proportion of teachers who are resourceful, imaginative, and intelligent.[20]

Grace and Moe in the New York Regent's Inquiry of 1938 ranked 43 New York school districts on a five-point scale after visitation. Although no controls were applied to size, cost of living, or population sparsity, the following conclusions were reached:

> High educational efficiency is not achieved without high expenditure, but many districts have high cost and distinctly inferior returns. The group of schools with superior educational results

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[20]William S. Vincent, Emerging Patterns of Public School Practices (New York: Bureau of Publications, Teachers College, Columbia University, 1945), p. 56.

> spreads the greater expenditure over all the items of expense (except transportation) and also devotes a larger proportion of the entire budget to direct instruction. The best schools do not have an exceptionally small number of pupils per teacher, but pay a high average salary to the instructors. The best schools were all large, and permitted organization of fairly large classes and a rich curriculum.[21]

One of the most convincing studies with high expenditure districts was done by Woollatt (1949). The study used 33 New York and New Jersey suburban communities in the high expenditure levels. Corrections were made for population sparsity, transportation, tuition expense, and differentials between high school and elementary costs. It was found that the Growing Edge did differentiate among expenditure levels as well as within high expenditure schools. The correlation to total score on the Growing Edge and expenditure was .59. Other significant findings were:

1. High cost districts did a better job of teaching skills.
2. High cost districts did a better job of developing the child's problem solving ability.
3. High cost districts did a better job of building good character.
4. There was no point of diminishing returns between expenditure level and quality scores as derived from the Growing Edge.[22]

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[21]A. G. Grace and G. A. Moe, State Aid and School Costs: Report of the Regent's Inquiry (New York: McGraw-Hill Book Company, 1938), pp. 324-329.

[22]Lorne H. Woollatt, The Cost-Quality Relationships on the Growing Edge (New York: Teachers College, Columbia University, 1949).

Mort in analyzing all the cost-quality studies up to 1950 had this to say about Woollatt's study:

> In all the data collected over thirty years of interest in this subject, there is none that speaks more convincingly than these.[23]

Studies of Middle Expenditure Levels

The Pennsylvania study (1935) of 36 communities used an instrument designed by Mort and Cornell which measured adaptability. The schools studied fell between the 40th and 80th percentile of the national expenditure range. Scores on the Guide for Self-Appraisal of School Systems had a positive correlation of .58 with current expenditure per weighted pupil.[24] Additional correlations were run on the per cent of business and professional workers (.59) and the general educational level (.56). It was determined that more than half the variation in adaptability scores could be accounted for by expenditure level.

Mort did a comprehensive study of Rhode Island Public Education in 1941. The Mort-Cornell Guide was given to 38 of the 39 districts in the state. A

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[23]Paul R. Mort, "Cost-Quality Relationships in Education," in Problems and Issues in Public School Finance, ed. by R. L. Johns and E. L. Morphet (New York: National Conference of Professors of Education, Teachers College, Columbia University, 1952), p. 17.

[24]Paul R. Mort and Frances G. Cornell, American Schools in Transition: How Our Schools Adapt Their Practices to Changing Needs (New York: Teachers College, Columbia University, 1941), p. 178.

correlation of .66 was found between quality scores and expenditure. One of the important findings of this study was the realization that a large percentage of the items in the scale were not directly related to costs. Fifty-two of the 58 items dealing with classroom instruction were correlated with expenditure. One of the major conclusions drawn by Mort was:

> When expenditure reaches the higher levels, where there is no longer concern with length of term, adequately trained and experienced teachers, and scores of other things that still concern all too many schools, expenditure shows up in bringing the day-to-day work of the school more fully into the life of each boy and girl.[25]

West Virginia was studied in 1945 by Strayer using the Mort-Cornell Guide as the instrument to measure quality. West Virginia represented the middle level of national expenditure, although the study involved all levels within the state. The conclusions of the Rhode Island study were confirmed in West Virginia. Positive correlations were found between expenditure and quality as measured by the Guide. Again of the 58 curriculum items, only five showed no relationship with expenditure. Significantly this study again pointed out that there is

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[25]Paul R. Mort, "Cost-Quality Relationships in Education," in Problems and Issues in Public School Finance, ed. by R. L. Johns and E. L. Morphet, p. 24.

something about a school, other than expenditure, that is related to quality.[26]

Two older studies (Ferrell, 1936 and Powell, 1933)[27] of middle-expenditure states also showed positive relationships between expenditure and their respective measures of quality. Powell's study involved one-room schools in New York. It showed improvement in achievement test scores with increase in expenditure levels.

Studies of Low Expenditure Levels

McLure in a 1947 study of Mississippi between the relationship of expenditure and quality found that quality scores were low for schools sampled. Mississippi ranks in the lowest levels of expenditure by states. Some of the major conclusions of McLure's study were: (1) most of the buildings were poorly designed for educational purposes, (2) there were few supplementary materials, (3) there were few teaching supplies and laboratory equipment, (4) the subjects were poorly taught, and (5) there were few activities for developing good citizenship. McLure concluded with:

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[26]George D. Strayer, Director, A Report of a Survey of Public Education in the State of West Virginia (Charleston, West Virginia: State of West Virginia, Legislature Interm Committee, 1945).

[27]Paul R. Mort, "Cost-Quality Relationships in Education," in Problems and Issues in Public School Finance, ed. by R. L. Johns and E. L. Morphet, p. 32.

> Perhaps most important of all next to expenditure level, there must be in the minds of the laymen and the educators the picture of what constitutes a good education.[28]

Mort's study of Maine in 1934, which is a low-expenditure state, found a positive correlation between expenditure and quality. The areas of evaluation were: (1) administrative services, (2) supervisory services, (3) services to atypical pupils, (4) course offerings, (5) school buildings, (6) instructional staff, (7) classroom procedures, and (8) home-school contacts.[29] It is interesting to note that most of these areas are included in the What Do You Think About Your Schools.

Other Studies of Cost-Quality Relationships

Furno conducted a 1956 study of the hypothesis that the amount of expenditure per year was not as important as the sustained level of expenditure over a long period of time. He found that schools that were high-expenditure schools in 1921 tended to be high in 1945. A

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[28]William P. McLure, Let Us Pay for the Kind of Education We Need: Report of a State and Local Support of Mississippi's Schools (University of Mississippi: Bureau of Education Research, University of Mississippi, 1948), pp. 3-29.

[29]Paul R. Mort, Director, The Financing of the Public Schools of Maine (Augusta: Maine School Finance Commission, 1934).

positive correlation was found for school districts as measured in 1945 and 1955 with the Growing Edge.[30]

Griffis in a study of 44 Texas school systems in 1955 found a significant rise in program and services with an increase in expenditure levels. His study was done by direct observation of the sampled school systems in relation to 100 modern educational practices.[31]

Bothwell (1958) studied the effect of selective increases in small-expense items on the total quality of the school's program. In his sample of 71 districts across the country, Bothwell found that balancing of all items advanced quality education, while overemphasis on any one item can hinder quality.[32]

A study of the St. Louis area schools in 1957 by Hirsch applied the following Index to measure quality:

1. Number of teachers per 100 pupils in average daily attendance.
2. Number of college hours per average teachers.
3. Average teacher's salary.
4. Percentage of teachers with more than ten years of experience.

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[30]Orlando F. Furno, "The Projection of School Quality from Expenditure Level" (unpublished Ed.D. project, Teachers College, Columbia University, 1956).

[31]James R. Griffis, Education Production at Three Cost Levels (Houston, Texas: Gulf School Research Development Association, 1955).

[32]Bruce K. Bothwell, Creative Expenditure for Quality Education (New York: Associated Public School Systems, 1958).

5. Number of high school units.

6. Percentage of high school seniors entering college.[33]

The schools were rated by a panel of experts on a five-point scale as to their quality. He found his Index consistent with the opinions of educational experts and a positive correlation with expenditure.

Studies done on the Educational Characteristics Criterion, (ECC) have shown a relationship between cost-factors and quality as perceived by educational experts. Berg[34] in 1962 found the ECC discriminated positively between high and low financial support districts in a sampling of Michigan school districts. Mueller[35] replicated Berg's study on a national sample in 1964 and substantiated the findings of Berg in relationship to cost-factors. The results of these studies made possible the construction of norms on a state and national level for the comparison of school quality scores.

Studies in Relationship to Size, Effort, Ability, and Need

Turck (1960) studied Michigan's school districts to see if there was a relationship between need, ability, and

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[33]Werner Z. Hirsch, Analysis of Rising Costs of Public Education (Washington, D. C.: Joint Economic Committee, 1959), p. 27.

[34]Berg, op. cit.

[35]Mueller, op. cit.

effort. His conclusions were: (1) there is a relationship between need and ability, (2) the greater the membership (need) the more likely the district is to increase effort, (3) there seems to be little relationship between effort and ability, and (4) other community characteristics have a great influence on the support levels of education.[36]

Krietlow (1961) made a twelve-year longitudinal study of the relationship of size to the educational program. His study involved the differences in achievement and learning opportunities as compared to reorganized and non-reorganized districts. He concluded that students with the same intelligence showed higher achievement levels and had better learning opportunities in reorganized districts than students from non-reorganized districts. Along with this finding, Krietlow suggested that the additional cost for this improved education was $12 per elementary pupil more than the non-reorganized districts were spending.[37]

A comprehensive study of 60 Wisconsin school districts by the Midwest Administrative Center using

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[36]Merton Turck, Jr., "A Study of the Relationships Among the Factors of Financial Need, Effort, and Ability in 581 High School Districts in Michigan" (unpublished Ed.D. dissertation, Michigan State University, 1960).

[37]Burton W. Krietlow, School District Reorganization...Does It Make a Difference in Your Child's Education? (Madison: Agricultural Experiment Station, University of Wisconsin, 1961).

trained observers to rate schools on the quality of their educational program found the highest number of "excellent" ratings were among: (1) districts with the largest number of pupils, (2) districts with the largest valuation per pupil, and (3) districts that made the greatest tax effort.[38]

Vincent (1961) reports several studies indicating the various correlations of ability and effort. A summary of his findings on ability, as measured in property valuation per pupil and disposable personal income, include: (1) the Metropolitan School Study Council of New York between 1940-1945 for all schools had a correlation of .77, (2) a nation-wide study by the Association of Public Schools in 1959-60 showed a correlation of .34, and (3) a sample of Pennsylvania school districts in 1939 showed a correlation of .34.[39] Vincent's summary of findings on the factor of effort, which is the amount of locally raised millage for school operation, include a correlation of .35 in 1940-45 for the Metropolitan School Study Council and a correlation of .48 for the same districts between 1950-1955.[40]

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[38]John Guy Fowlkes and George E. Watson, School Finance and Local Planning (Chicago: The Midwest Administrative Center, 1957), pp. 74-85.

[39]William S. Vincent, "Quality Control: A Rationale for Analysis of a School System," IAR Research Bulletin, Vol. I, No. 2 (January, 1961), p. 7.

[40]Ibid., p. 7.

Summary

1. All the studies reported show a positive relationship between expenditure and quality.

2. The relationships between expenditure and quality holds for high, middle, and low expenditure districts.

3. The respective measure of quality makes little difference in relationship to expenditure.

4. A long-range view of expenditure is more important than the short range for influencing quality of the educational program.

5. Community characteristics have an influence, along with expenditure, on the quality of the school district.

6. Certain items of expenditure correlate better with quality than total current expenditures.

7. The factors of size, ability, effort, and expenditure have been found to be positively related to the quality of an educational program.

Instrumentation

The previous section reviewed the empirical studies which indicate a relationship between cost-factors and quality of the school program. The purpose of this section will be to investigate the instrumentation developed for evaluation of school districts based upon: (1) locally defined values, goals, and objectives, (2) national testing programs and achievement tests, (3) quantitative

assessment of school organization, (4) quality assessment based on expert's observations, (5) assessment based on economic output and adult adjustment, and (6) assessment of community attitudes.

Introduction

The need for program assessment has been well established. If educational programs are to become better, school districts need a periodic audit to find out what they are doing, and what can be done better. The two methods of determining the quality of a school program are evaluation based on process or product. Assessment by process approaches the question through the identification of factors which describe the educational setting of the school; what is taught, how it is taught, and other factors influencing the educational program. The quality of the process is thus used to describe the quality of the educational program. Assessment by product looks at the end result of the educational program. The use of achievement tests, grades, attitudes, and adjustment inventories give measurable results which can be used to make estimates of the school's quality. Mort summarized the research that has been done on assessment over the past forty years and concluded: (1) 64% of the studies

used process-type methods for evaluation, and (2) 36% used product-type measures for evaluation.[41]

Instruments Based Upon Locally Defined Values, Goals, and Objectives

A group of instruments used widely to evaluate the school program assumes that a school program should be assessed in terms of the goals it has established. One of the major instruments for this type of evaluation is the Evaluative Criteria developed by the National Study of Secondary School Evaluation.[42] This instrument contains: (1) a guide for the statement of objectives and philosophy prior to the evaluation; (2) an analysis of school and community data; (3) a series of checklists to assess, (a) general principles underlying the program of the school, (b) curriculum development procedures, (c) course offerings, (d) outcomes of the program of studies, (e) special characteristics of the program of study, and (f) a general evaluation of course offerings on a five-point rating scale; and (6) a series of charts to present a picture of the overall evaluation. The total rating for the school is determined by the average score

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[41]Paul R. Mort, Walter C. Reussen, and John W. Polly, Public School Finance (New York: McGraw-Hill Book Company, 1960), p. 80.

[42]National Study of Secondary School Evaluation, Evaluative Criteria (Washington, D. C.: The Study, 1960), pp. 3-4.

for each category. The evaluation is to be completed by educationists and lay citizens with a follow-up evaluation by professional educators.

A similar type of instrument for elementary schools was developed by the Southern Association of Secondary Schools.[43] Evaluating the Elementary School: A Guide for Cooperative Study has five sections: (1) formulation of values and goals, (2) listing of functions, (3) school program, (4) resources, and (5) plans for improvement. No score for total evaluation is given, as the instrument is designed for improving the school program and a tool for planning curriculum change.

Evaluating agencies, such as the University of Michigan Bureau of School Services and the North Central Association of College and Secondary Schools have developed similar instruments for local and professional evaluation of school districts. The criteria used for the Criteria for Accreditation[44] and Policies, Regulations, and Criteria for the Approval of Secondary Schools[45] fall

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[43]Southern Association of Secondary Schools, Evaluating the Elementary School: A Guide for Cooperative Study (Atlanta: Commission on Research and Service, the Association, 1951).

[44]The University of Michigan, Criteria for Accreditation (Ann Arbor: Bureau of School Services, The University of Michigan, 1961), pp. 1-25.

[45]North Central Association of Colleges and Secondary Schools, Policies, Regulations, and Criteria for Approval of Secondary Schools (Chicago: The Association, 1961).

in these general classifications: (1) philosophy and objectives; (2) educational program; (3) organization, support, and control; (4) school staff; (5) library and instructional material and equipment; (6) administrative and supervisory services; (7) school plant; (8) length of school year; (9) graduation requirements, pupil load, and credits; and (10) evaluation, guidance, and testing. Observations and evaluations by educationists are given in summary form and local educators are encouraged to develop purposes and objectives to meet the local situation. No numerical summary is reported for total quality of the district.

Several instruments have been developed to stimulate interest in the school program by citizens. The National Education Association, How Good Are Your Schools?[46] is one example. It asks the study group to evaluate several parts of the school program: (1) the school program, (2) the elementary school program, (3) the junior high school program, (4) the senior high school program, (5) adult education, (6) competency and qualification of teachers, (7) materials for instruction, (8) buildings and equipment, (9) administration, (10) adequacy of finance, (11) board of education, and (12) citizen interest.

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[46]National Education Association, How Good Are Your Schools? (Washington, D. C.: The Association, 1958), pp. 1-31.

Yardsticks for Public Schools by the National School Board Association[47] is another example of an instrument designed for citizens to evaluate their schools. The guide permits citizens to measure tangible factors that measure school quality to generate interest and concern on the part of local citizens. The citizens are asked to make judgments on the following areas: (1) goals of the school, (2) school program, (3) teachers and teaching, (4) buildings and equipment, (5) finances, (6) organization and administration, and (7) citizens action. The results of each area are combined to give a total assessment of the school district.

Instruments Used to Measure Achievement

The measurement of student output in amount of subject-matter learned has been the major concern of several achievement tests. Achievement tests can provide a partial estimate of competency for a school district in relationship to basic skills, appreciation of and interest in knwoledge, our cultural heritage, human relations, and citizenship. The 1964 edition of the Stanford Achievement Test is described by a reviewer in The Sixth Mental Measurement Yearbook as one of the best

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[47]National School Board Association, Yardstick for Public Schools (Evanston, Illinois: The Association, 1959).

achievement tests on the market today.[48] The Stanford consists of five batteries: (1) Primary I, (2) Primary II, (3) Intermediate I, (4) Intermediate II, and (5) Advanced. These batteries range in grade placement from 1.6 years to 9.6 years. The specific skills tested are presented in Table 1.[49] Total and sub-total scores can be derived for each battery. These scores can be interpreted as a partial measure of school program quality. Studies by Springer[50] and Pelton[51] using the Stanford as a measure of achievement found a small but positive correlation between quality and achievement test scores.

Two other highly regarded achievement tests that have been used as a partial measure of quality are the Iowa Tests of Basic Skills[52] for elementary pupils and the Iowa Tests of Educational Development[53] for high school students. The first test gives a total score of

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[48] Oscar Kristen Buros, ed., The Sixth Mental Measurement Yearbook (Highland Park, New Jersey: The Gryphon Press, 1966), pp. 123-124.

[49] Truman L. Kelley, et al., Stanford Achievement Test, Technical Supplement (New York: Harcourt, Brace, and World Inc., 1966), p. 11.

[50] Springer, op. cit.

[51] Pelton, op. cit.

[52] Iowa Tests of Basic Skills (Boston: Houghton-Mifflin Company, 1956).

[53] Iowa Tests of Educational Development (Chicago: Science Research Associates, 1955).

TABLE 1.--A comparison of skills by battery for the Standford Achievement Test.

Primary I	Primary II	Intermediate I	Intermediate II	Advanced
Word Reading	Word Meaning	Word Meaning	Word Meaning	
Paragraph Meaning	Paragraph Meaning	Paragraph Meaning	Paragraph Meaning	Paragraph Meaning
Vocabulary	Science & Social Studies Concepts			
Spelling	Spelling	Spelling	Spelling	Spelling
Word Study Skills	Word Study Skills	Word Study Skills		
	Language	Language	Language	Language
	Arithmetic Computation	Arithmetic Computation	Arithmetic Computation	Arithmetic Computation
Arithmetic	Arithmetic Concepts	Arithmetic Concepts	Arithmetic Concepts	Arithmetic Concepts
		Arithmetic Applications	Arithmetic Applications	Arithmetic Applications
		Social Studies	Social Studies	Social Studies
		Science	Science	Science

pupil achievement plus five sub-scores by subject matter areas. The second test provides a total score and scores for nine sub-tests.

The latest movement in achievement testing has been the development of a program of national assessment under the sponsorship of the Carnegie Corporation. The purposes of national assessment were stated by Gardner in 1965.

> A well-conceived and well-executed assessment would, hopefully, serve several important purposes. First, it would give the nation as a whole data on the strengths and weaknesses of the American educational system. Thus, it might constitute a much more accurate guide than we currently possess to the allocation of public and private funds--where they are needed, what they achieve--and to many other decisions affecting education. Second, assessment results, especially if coupled with auxiliary information on characteristics of various regions, communities, schools etc., would provide data necessary for research on educational problems and processes which cannot be undertaken now. Third, when sampling and testing procedures are adequately developed, international comparisons might be possible. And finally, it is hoped that a national assessment of education would make all groups more vitally interested in the educational system--not just in where it stands, but also in what its goals should be and how it might be improved.[54]

Despite spirited opposition, the national assessment program has progressed. Items are being written and tested. When operational it will give another measure of achievement for American education. It is doubted whether the results will have any more value than the now existing

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[54]John W. Gardner, op. cit., p. 1.

achievement tests, and they certainly will reflect only one aspect of the total school program.

Instruments for Quantitative Assessment of School Programs

Many studies over the past forty years have defined quality in terms of teachers employed, materials, facilities, length of school term, and holding power. One of the earliest instruments of this type was developed by Ayres. His Index of ten items consisted of five expenditure items and five quantitative measures. The five quantitative measures were:

1. Per cent of school population attending school.
2. Average days attended by each child of school age.
3. Average number of days the schools were kept open.
4. Per cent that high school attendance was of total attendance.
5. Per cent that boys were of girls in high school.

The correlation between expenditure and non-expenditure items was .78.[55]

A 1959 study by Hirsch used a six-item Index to measure educational quality. These items were:

1. The number of teachers per 1000 pupils in average daily attendance.
2. The number of college hours of education of the average teacher.

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[55]Ayres, op. cit.

3. The average teacher's salary.

4. The per cent of teachers with more than ten years of experience.

5. The number of high school credit units offered.

6. The per cent of high school seniors entering college.[56]

A simple guide offered by the Educational Policies Commission in 1959 suggested a good education system should provide a total per pupil expenditure that was twelve per cent of a qualified beginning teacher's salary.[57] In view of educational expenditure today, few schools reach this ideal state.

Each year School Management devotes a whole issue to measuring school quality in terms of expenditure. The "Cost of Education Index"[58] was designed to present regional comparisons of educational costs for local administrators. The stated goals of the Index are: (1) to compare district costs within regions, (2) to compare specific items of expenditure, (3) to discover areas of over-extensions or under-extensions, (4) to help construct a balanced educational program, (5) to evaluate tax effort, (6) to compare expenditure, spending patterns, and

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[56]Hirsch, op. cit.

[57]Educational Policies Commission, An Essay on Quality in Public Education (Washington, D. C.: National Education Association, 1959), pp. 24-25.

[58]"The Cost of Education Index," School Management, Vol. 9, No. 1 (January, 1965), pp. 100-151.

staffing ratios with like districts across the nation, and (7) to provide a measurement of what a quality program will cost.[59] The basic assumption of this Index is that high cost districts are quality districts.

Another approach to the quantitative aspect of the school program was the instrumentation developed by Love[60] (1968). The model developed a way of looking at program costs in a systematic way for detailed cost information concerning the school's educational program. It is possible from this analysis to compute costs per pupil, per subject, per grade, per building, or per any item used in the school's program. These findings permit judgments of need in light of actual costs for specific programs. Although no assumptions are made in relationship to program quality, a quantitative measure can be objectively assessed and judgments made as to their worth for the school district.

Instruments Based on Assessment by Educational Experts

The measurement of school program in relation to the assessment of educationists has had a long development. The observation of sound educational practices

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[59] Ibid., p. 102.

[60] Bryon K. Love, "The Development of a Suggested Instructional Programs Cost Model for K-12 Districts of the State of Michigan" (unpublished Ed.D. dissertation, Michigan State University, 1968).

gives important clues to the over-all quality of the school's educational program. Much of the work done in this area of evaluation was undertaken by Mort and his associates at Columbia University.

One of the first instruments developed by Mort and Cornell was the Guide for the Self-Appraisal of School Systems[61] in 1937. This Guide had as its basic assumption of quality the speed that acceptable education ideas are adopted by a school district. Fifty-eight of the items dealt with classroom instruction, 86 items dealt with educational leadership, and 39 items assessed facilities and business management. The speed with which a district had progressed on the items gave a score of "Adaptability." The Guide made no final evaluation of the educational product or the underlying values to arrive at the eudcational program.

The development and testing of several instruments led to the writing of the Growing Edge. This instrument was also designed to measure the "Adaptability" of a school system in relation to specific school practices. The instrument was composed of two batteries, high school and elementary, which can be locally administered or given by an outside group. The secondary battery was made up of 85 items and the elementary had 64 items. The items

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[61]Paul R. Mort and Frances G. Cornell, Guide for Self-Appraisal of School Systems (New York: Bureau of Publications, Teachers College, Columbia University, 1937).

ask the evaluator to rate specific school practices in four areas:

1. The teaching of skills in a real or realistic fashion, and the teaching of a wide range of skills.
2. The teaching of areas of knowledge realistically.
3. The discovery and development of special aptitudes of individuals through test and tryout.
4. The development of gross behavior patterns like citizenship, character, and thinking.[62]

Reliability and validity coefficients were found to be high for both batteries.

The identification of characteristics that are related to a quality program was the purpose of a study by Rudman[63] in 1961. This study identified ninety factors which curriculum specialists and other educationists claimed influenced the quality of the educational program. Kraft[64] replicating this study on a national level asked professors of education, professors in areas other than education, and school board members what their perceptions of the ninety factors were in relation to a quality program. Kraft summarized as follows: (1) there appears

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[62]Paul R. Mort, William S. Vincent, and Clarence A. Newell, The Growing Edge (New York: Metropolitan School Study Council, Teachers College, Columbia University, 1946).

[63]Rudman, "The Determination and Measurement of Factors which Directly or Indirectly Affect the Quality of an Educational Program," p. 5.

[64]Kraft, op. cit.

to be a relationship between the group the individual was a member of and his perception of the factors, (2) there is agreement in each group as to the importance and relevance of the factors concerned with teaching and teaching methods, (3) there is agreement between groups in attributing less value to the extra-classroom category of factors, and (4) there is no relationship between the geographic region of residence and his perception of characteristics in five of the seven categories used in this study.

From this research Rudman constructed the Educational Characteristics Criterion (ECC). Further studies were carried on by Berg, Mueller, Springer, and Pelton to norm--on cost-factors--and evaluate the instrument on a state and national basis. The results of these studies were cited in the section on cost-quality research.

Instruments Based on Economic Output and Adult Adjustment

Thorndike constructed an instrument to study the effect of education and other factors on social life. His instrument, known as the G. Index, compared the social conditions of 1930 with the social conditions of 1900. The G. Index was made up of five health items, seven education items, two recreation items, eight economic and social items, five "creature comfort" items, and nine miscellaneous items taken as evidence of good

conditions. A positive relationship was found with measures of education quality, but Thorndike cautioned as follows:

> On the whole, the facts which I have reported probably attach less causal efficacy to schooling, home life, and special forms of training than the general opinion of educators has attached to them. They certainly do not support the promises of educational evangelists that, if all the children for a generation or two had enough education of the right sort, they would be healthy, wealthy, and wise, living in peace and amity, free from vulgarity and meaness, busy with noble thoughts and deeds.[65]

Bagley studied the correlation of quality with percentage of illiteracy, circulation of widely read magazines, persons included in Who's Who, per capita income, and percentage of white soldiers who received high grades on the Army Alpha over a thirty-year period and concluded that education was the main cause in differences of behavior and economic output.[66]

Instruments Used to Measure Community Attitudes

There has been a good deal of interest in the polling of public opinion as related to school program. Mort, Cornell, and Hinton developed the What Should Our Schools Do? instrument. The instrument was designed to measure the degree of "conservatism" vs. "liberalism" of

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[65]Edward L. Thorndike, Education as Cause and As Symptom (New York: The MacMillian Company, 1939), p. 67.

[66]W. C. Bagley, Determinism in Education (Baltimore: Warnick and York, 1925), Chapter 4 and 5.

a school district. The respondent answered the items by underlining either "agree" or "disagree." An example of an item reads, "A school should not expect children to reach the same standard of achievement."[67] Mort and Cornell found a significant correlation between this instrument and expenditure in the Pennsylvania study.

Fisk developed the What Can Good Schools Do?.[68] This instrument sought to develop a rationale to explain known relationships between aspects of public understanding and school adaptability. The instrument included three elements: (1) what people knew about changing practice, (2) what people understood about why practices should change, and (3) what people of a community would accept as improvement. The respondent could answer the items by a "yes," "no," "do not understand," or "do not agree."

The Metropolitan School Study Council developed an instrument called A Poll of Opinion which was designed to measure knowledge of educational issues. This instrument included 27 questions. There were three forms which contained three issues on each form, and the respondent was asked to check the three best supporting sentiments for

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[67]Paul R. Mort, Frances G. Cornell, and Norman H. Hinton, What Should Our Schools Do? (New York: Bureau of Publications, Teachers College, Columbia University, 1938).

[68]Robert S. Fisk, Public Understanding of What Good Schools Can Do (New York: Bureau of Publications, Teachers College, Columbia University, 1944).

his opinion on each issue. Research by the Council indicated that the poll did little more than the Mort-Cornell-Hinton Poll.[69]

A Study of Public Opinion About Schools developed by Walling in 1953 again asked opinions on school situations. The respondents were asked to indicate "pleasure" or "displeasure" at hypothetical situations, such as "Many classes where you can hear a pin drop."[70]

The initial development of the present instrument called What Do You Think About Your Schools was done by Hand (1948). Hand's instrument was described in What People Think About Their Schools.[71] The four batteries given were: (1) elementary pupils, 32 items; (2) secondary students, 44 items; (3) parents, 49 items; and (4) teachers, 72 items. The responses to items were indicated by choosing from two to five alternatives to suggest degree of favorable response. The major differences between Hand's and Rudman's instrument are: (1) a general up-dating of all items, (2) a consistent pattern of responses, (3) measurable results in terms of

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[69]Metropolitan School Study Council, A Poll of Opinion About Schools 9New York: The Council, 1955).

[70]Donald Walling, "Polls of Opinion to Measure Community Understanding of the Power of Education" (unpublished Ed.D. dissertation, Teachers, College, Columbia University, 1951).

[71]Harold C. Hand, What People Think About Their Schools (New York: World Book Company, 1948), pp. 153-220.

established norms, (4) the use of sampling to limit the number of respondents, and (5) the addition of a fifth group, patrons, to get a total look at community attitudes. Hand suggested that the results of his instrument were reliable enough for school program evaluation and development. Rudman's instrument makes no such implication. The results of the What Do You Think About Your Schools must be combined with a total look at school program before evaluative statements can be made.

Summary

1. A number of instruments have been developed to measure locally defined goals, values, and objectives. These instruments offer a good description of the school program in light of existing conditions. Their major weakness is the determination of education results. They only assume that meeting stated objectives produces a quality program. Another weakness is the lack of measurable results. No objective norms are available and therefore scores are of limited value.

2. Instruments based on achievement tests have been another popular method of measuring the quality of a school program. The major assumption is that high achievement scores indicate high school quality. Although achievement tests do give objective measures of content, it can be questioned whether this knowledge can be credited solely to the schools. Many factors

influence learning other than schools, such as intelligence, socio-economic background, cultural experience, and emotional stability.

3. Measures designed to assess the quality of the quantitative aspects of the school--teaching staff, salaries, facilities, etc.--assume that more and better educational results can be obtained with better inputs. These instruments have value, but there is no measurable evidence for the educational results obtained.

4. Instruments based on the opinion of educationists is another way of assessing school program. It is limited to what goes on in the schools, and does not reflect output or how results are obtained. The complex environmental factors that influence the quality of a school program cannot be assessed accurately by a limited view of the total school situation.

5. The measurement of output in terms of later life success is also hampered by the many factors that influence success. The schools alone cannot take sole blame or credit for the development of individuals. The schools are only one agency that have an influence on the development of mankind.

6. The development of opinion polls has added another dimension to school program evaluation which could not be covered in any other manner.

7. The need for a comprehensive model for educational audits is apparent. No one instrument can assess total school quality, but rather a many faceted approach is necessary. Research up to this point has been fragmented to specific areas of school program. A unified model is needed to give a complete picture of school quality. More research is needed on instruments to increase their validity and reliability to measure outcomes of school program. In the end it is not instruments, observations, or judgments that will assess education, but the mark education leaves on the history of mankind.

CHAPTER III

INSTRUMENTATION AND METHODOLOGY OF THE STUDY

Introduction

This chapter will discuss the development of the What Do You Think About Your Schools, the specific batbery items, and the comparison of battery items between elementary pupils, secondary students, parents, patrons, and faculty. The classification of school districts by the financial characteristics of size, effort, ability, and expenditure will be dealt with, as well as, the selection of the number of school districts and number of respondents in each school district for the sample. The method of distribution and collection of the instrument in the school districts will be explained. The final section of this chapter will deal with the statistical treatment of the data, the sorting procedure, and the specific statistics used to test the research hypotheses.

Instrumentation

The What Do You Think About Your Schools was developed by Rudman over a ten-year period to analyze

community attitudes toward their school's educational program. The original items were developed by Harold Hand in connection with the Illinois Secondary Schools Curriculum Study in the late 1940's. These original items were further refined and expanded by Rudman through use in many community curriculum studies in the State of Michigan. These studies indicated scores on the batteries were in general agreement with the perceptions of educational experts.[1,2,3,4] The need became apparent for an objective measure of scores obtained from the five batteries. In past studies, observers were only able to make general statements in terms of the percentage of favorable response for each specific item. The development of norms for each item based on pertinent financial characteristics would give the observers a solid base for measuring the attitudes of the respondents in relationship to similar school districts in the State

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[1] Planning for Educational Renewal, Hamtramck, Michigan (East Lansing, Michigan: Educational Service Series Number 19, Educational Publication Services, College of Education, Michigan State University, 1966).

[2] Montrose in Transition (East Lansing, Michigan: Educational Service Series Number 21, Educational Publication Service, College of Education, Michigan State University, 1967).

[3] South Haven Citizens Study Their Schools (South Haven, Michigan: South Haven Board of Education, 1967). (Mimeographed.)

[4] An Analysis of Educational Facilities: Present and Future Needs (Goodrich, Michigan: Goodrich Board of Education, 1967). (Mimeographed.)

of Michigan. The major focus of this study is to establish such norms based on financial characteristics, and to apply statistical tests to the specific items for purposes of determining the reliability and descrimination of the instrument.

The instrument is made up of five batteries which measure the attitudes of elementary pupils, secondary students, parents, patrons, and faculty concerning six categories of the school program: (1) satisfaction with school, (2) school program, (3) essential services desired, (4) school organization and size, (5) school plant, and (6) community relations. The items for each battery are worded slightly differently to meet the reading level and comprehension of the group sampled. The respondents are only asked items for which they are qualified to have an opinion. An analysis of the reading level for the elementary battery indicated a 4.6 grade level of reading difficulty. The secondary form was written at a 7.1 level as computed by the Dale-Chall readability formula.[5] Table 2 summarizes the actual number of items for each category in the batteries.

The number of actual items for each respondent group varies from thirty-one to sixty, but there are nineteen items which are responded to by all groups.

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[5]Edgar Dale and Jeanne S. Chall, "A Formula for Predicting Readability," Educational Research Bulletin, 28:35-54 (February, 1948).

TABLE 2.--Number of items within each battery by category.

Battery	Categories						
	Satisfaction with School	School Program	Essential Services	Organi-zation	Plant	Community Relations	Total
Elementary Pupils	10	11	13	1	1	1	37
Secondary Students	13	11	18	1	1	1	45
Parents	10	11	18	1	1	12	53
Patrons	4	2	18	-	-	7	31
Faculty	17	11	18	2	1	11	60

Table 3 shows the complete tabulation of items by battery and category. The number indicated within each battery and category is the item number on the specific battery. This is provided to show which item numbers correspond across batteries. Complete batteries can be found in Appendix A.

The instrument is a pencil-and-paper questionnaire which can be completed by the individual in less than thirty minutes. The respondents indicate their attitudes on a four-point value scale. The scores are dichotomized to indicate percentage of favorable and unfavorable response for each item.

Financial Data

The financial data, which included size, expenditure per pupil, operation millage, and state equalized valuation per pupil were obtained from the Michigan Education Association.[6] These four cost factors were chosen for two reasons: (1) empirical studies have shown a relationship between these cost factors and quality, and (2) the Educational Characteristics Criterion was normed on these four cost factors. The curriculum assessment model developed by Rudman would have one more

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[6]Michigan Education Association, Rankings of Michigan High School Districts by Selected Financial Data for 1966-67 (East Lansing, Michigan: Michigan Education Association, 1967).

TABLE 3.--Item numbers for each battery by category.

	Elementary Pupil	Secondary Student	Faculty	Parent	Patron
Satisfaction with Schools					
Like School	1	1	1	4	--
Student Feels Part of Group	2	2	2	5	--
Teacher Knows Child	3	3	3	6	--
Teacher Gives Help	5	5	5	8	--
Value of Studies	10	13	17	13	--
Proud of School	6	6	6	9	1
Teacher Interest in Child	4	4	4	7	--
Schools Compare Favorably	7	7,8,9,10*	7,8,9,10, 11,12,13,14**	10	2
Satisfaction with Schools	8	11	15	11	3
Interest in Schools' Future	9	12	16	12	4
School Program					
Effectiveness of Studies	11	14	18	14	--
Part in Extra-Curricular Activities	12	15	19	15	--
Amount of Work to Keep Up	13	16	20	16	--
Amount of Homework	14	17	21	17	--
Enough Extra-Curricular Activities	15	18	22	18	--
School Creates Interest in Extra-Curricular Activities	16	19	23	19	--
Variety of Subjects	17	20	24	20	--
Subject Wanted Not Taught	18	21	25	21	--
Help from Librarian	19	22	26	22	--
Money Needed for School	20	23	27	23	5
Usefulness of Subjects	21	24	28	24	6
Essential Services Desired					
Audio-Visual	22	25	29	28	7
Physical Education	23	26	30	29	8
Field Trips	24	27	31	30	9
Music	25	28	32	31	10
Art	26	29	33	32	11

Hot Lunch	27	30	34	33	12
Physical and Dental Examination	28	31	35	34	13
Job Placement	--	32	36	35	14
Guidance	--	33	37	36	15
Speech Correction	29	34	38	37	16
Mental Health Clinic	30	35	39	38	17
Remedial Reading	31	36	40	39	18
Special Education	32	37	41	41	19
Adult Education	--	38	42	40	20
Agriculture Program	--	39	43	42	21
Social Activities	33	40	44	43	22
Summer School	34	41	46	44	23
Driver Training	--	42	45	45	24
School Organization and Size					
School Overcrowded	35	43	47	25	--
Supervisory Assistance	--	--	49	--	--
School Plant					
Adequate Equipment and Facilities	36	44	48	26	--
Community Relations					
School-Community Relations	--	--	50	27	25
Faculty Status in Community	--	--	51	46	26
School as Informant	--	--	52	47	27
Minutes Published	--	--	53	48	28
Parent-Teacher Relations	--	--	54	49	--
Parent-Teacher Conferences	--	--	55	50	--
PTA Effectiveness	--	--	56	51	--
Taxes and Services Rendered	--	--	57	52	29
Increase Taxes	--	--	--	53	30
Know Child's Teacher or Parent	--	--	58	55	--
School-Community Information	--	--	59	54	31
Interest of Parents in School Activities	37	45	60	56	--

*These items are averaged to give one score for "Schools Compare Favorably."
**These items are averaged to give one score for "Schools Compare Favorably."

component added to the assessment of values within the community based on a similar criterion.

The total number of high school districts in Michigan during the 1966-67 school year was 533. Of this number, complete financial data was available for 508. The City of Detroit was excluded from the sample to provide a better statistical distribution of school districts for the state. The inclusion of Detroit in the sample would have made a normal distribution impossible because of its large size and state equalized valuation. The 507 school districts in the sample accounted for 94% of the total state membership if the City of Detroit was excluded.

The 507 Michigan school districts used for this study were ranked on each of the four cost factors. This ranking was then quartiled to provide the necessary stratification of districts on the four cost factors. Table 4 shows the quartile distribution of Michigan school districts by size. The smallest district had only 98 pupils, while the largest enrolled 46,076.

Table 5 indicates the amount of taxable real and personal property per pupil from the poorest district with $1,754 for each pupil to the richest district with $55,347 for each pupil.

TABLE 4.--Classification of 507 Michigan school districts according to size, as of the school year, 1966-67.

Quartile	No. of Districts	Size
4	18	14,300 - 46,076
3	47	5,710 - 14.200
2	108	2,550 - 5,670
1	334	98 - 2,505

TABLE 5.--Classification of 507 Michigan school districts according to state equalized valuation per pupil, as of the school year 1966-67.

Quartile	No. of Districts	SEV per Pupil (dollars)
4	63	17,779 - 55,347
3	104	12,992 - 17,762
2	138	9,951 - 12,990
1	202	1,754 - 9,943

Table 6 shows the dollar amount spent on each child by the school district. The least spent was $324 per pupil, and the greatest amount was $955 per pupil.

Table 7 shows the amount of effort the community expended for education as expressed in millage for operation. The minimum was 8.00 mills and the maximum was 33.50 mills.

TABLE 6.--Classification of 507 Michigan school districts according to expenditure per pupil, as of the school year 1966-67.

Quartile	No. of Districts	Expenditure (Dollars)
4	92	525 - 955
3	114	466 - 523
2	125	426 - 465
1	176	324 - 425

TABLE 7.--Classification of 507 Michigan school districts according to mills levied for operation, as of the school year 1966-67.

Quartile	No. of Districts	Mills Levied (Effort)
4	85	19.85 - 33.50
3	114	16.22 - 19.84
2	135	13.70 - 16.21
1	173	8.00 - 13.69

Classification of Districts on Cost Factors

The school districts in the sample were assigned a quartile rank on each of the four cost factors from a possible distribution of 4-4-4-4 to 1-1-1-1. This made it possible to pick the school districts that received the same quartile rank on each of the four cost

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Enough Extra-Curricular Activities	15	18	22	18	--
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Variety of Subjects	17	20	24	20	--
Subject Wanted Not Taught	18	21	25	21	--
Help from Librarian	19	22	26	22	--
Money Needed for School	20	23	27	23	5
Usefulness of Subjects	21	24	28	24	6
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Physical and Dental Examination	28	31	35	34	13
Job Placement	--	32	36	35	14
Guidance	--	33	37	36	15
Speech Correction	29	34	38	37	16
Mental Health Clinic	30	35	39	38	17
Remedial Reading	31	36	40	39	18
Special Education	32	37	41	41	19
Adult Education	--	38	42	40	20
Agriculture Program	--	39	43	42	21
Social Activities	33	40	44	43	22
Summer School	34	41	46	44	23
Driver Training	--	42	45	45	24
School Organization and Size					
School Overcrowded	35	43	47	25	--
Supervisory Assistance	--	--	49	--	--
School Plant					
Adequate Equipment and Facilities	36	44	48	26	--
Community Relations					
School-Community Relations	--	--	50	27	25
Faculty Status in Community	--	--	51	46	26
School as Informant	--	--	52	47	27
Minutes Published	--	--	53	48	28
Parent-Teacher Relations	--	--	54	49	--
Parent-Teacher Conferences	--	--	55	50	--
PTA Effectiveness	--	--	56	51	--
Taxes and Services Rendered	--	--	57	52	29
Increase Taxes	--	--	--	53	30
Know Child's Teacher or Parent	--	--	58	55	--
School-Community Information	--	--	59	54	31
Interest of Parents in School Activities	37	45	60	56	--

*These items are averaged to give one score for "Schools Compare Favorably."
**These items are averaged to give one score for "Schools Compare Favorably."

component added to the assessment of values within the community based on a similar criterion.

The total number of high school districts in Michigan during the 1966-67 school year was 533. Of this number, complete financial data was available for 508. The City of Detroit was excluded from the sample to provide a better statistical distribution of school districts for the state. The inclusion of Detroit in the sample would have made a normal distribution impossible because of its large size and state equalized valuation. The 507 school districts in the sample accounted for 94% of the total state membership if the City of Detroit was excluded.

The 507 Michigan school districts used for this study were ranked on each of the four cost factors. This ranking was then quartiled to provide the necessary stratification of districts on the four cost factors. Table 4 shows the quartile distribution of Michigan school districts by size. The smallest district had only 98 pupils, while the largest enrolled 46,076.

Table 5 indicates the amount of taxable real and personal property per pupil from the poorest district with $1,754 for each pupil to the richest district with $55,347 for each pupil.

TABLE 4.--Classification of 507 Michigan school districts according to size, as of the school year, 1966-67.

Quartile	No. of Districts	Size
4	18	14,300 - 46,076
3	47	5,710 - 14.200
2	108	2,550 - 5,670
1	334	98 - 2,505

TABLE 5.--Classification of 507 Michigan school districts according to state equalized valuation per pupil, as of the school year 1966-67.

Quartile	No. of Districts	SEV per Pupil (dollars)
4	63	17,779 - 55,347
3	104	12,992 - 17,762
2	138	9,951 - 12,990
1	202	1,754 - 9,943

Table 6 shows the dollar amount spent on each child by the school district. The least spent was $324 per pupil, and the greatest amount was $955 per pupil.

Table 7 shows the amount of effort the community expended for education as expressed in millage for operation. The minimum was 8.00 mills and the maximum was 33.50 mills.

TABLE 6.--Classification of 507 Michigan school districts according to expenditure per pupil, as of the school year 1966-67.

Quartile	No. of Districts	Expenditure (Dollars)
4	92	525 - 955
3	114	466 - 523
2	125	426 - 465
1	176	324 - 425

TABLE 7.--Classification of 507 Michigan school districts according to mills levied for operation, as of the school year 1966-67.

Quartile	No. of Districts	Mills Levied (Effort)
4	85	19.85 - 33.50
3	114	16.22 - 19.84
2	135	13.70 - 16.21
1	173	8.00 - 13.69

Classification of Districts on Cost Factors

The school districts in the sample were assigned a quartile rank on each of the four cost factors from a possible distribution of 4-4-4-4 to 1-1-1-1. This made it possible to pick the school districts that received the same quartile rank on each of the four cost

factors. Table 8 summarizes this distribution and points out the number of districts that received the same rank on size, ability, expenditure, and effort.

TABLE 8.--School districts with the same quartile rank on all four cost factors.

Quartile Rank				No. of Districts
Size	Ability	Expenditure	Effort	
4	4	4	4	2
3	3	3	3	0
2	2	2	2	2
1	1	1	1	0

It is obvious from this distribution that additional flexibility would be required in order to pick a suitable number of school districts for the sample. This was accomplished by adding the total quartile ranks and providing a range within these ranks for the selection of sample school districts. Thus if a district had cost quartile ranks of 4-4-4-4 it range would be 16. If the district ranks were 4-4-4-3 its range would be 15, and the like. This allowed a district to be included in the sample if the ranks were the same on three of the four cost factors. Table 9 shows all the possible quartile ranges if the school district drops or rises one rank.

TABLE 9.--Quartile range and number of school districts represented by the four cost factors.

Quartile Range (16-15)		Quartile Range (13-11)		Quartile Range (9-7)		Quartile Range (5-4)	
Quartile	No. of Dist.	Quartile	No. of Dist.	Quartile	No. of Dist.	Quartile	No. of Dist.
4-4-4-4	2	3-3-3-3	0	2-2-2-2	2	1-1-1-1	0
4-4-4-3	2	4-3-3-3	5	2-1-2-2	3	1-2-1-1	4
4-4-3-4	3	3-4-3-3	0	2-2-1-1	9	1-1-2-1	0
4-3-4-4	3	3-3-4-3	0	2-2-2-1	2	1-1-1-2	2
3-4-4-4	0	3-3-3-4	0	3-2-2-2	4	2-1-1-1	28
		2-3-3-3	0	2-3-2-2	0		
		3-2-3-3	0	2-2-3-2	1		
		3-3-2-3	1	2-2-2-3	1		
		3-3-3-2	0				
Total	10		6		22		34

It also shows the number of districts available for the sample within that quartile range. This added degree of flexibility provided seventy-two possible school districts from which to draw the sample school districts.

Selection of the Sample

The selection of the sample depended on selecting an appropriate number of school districts on the four cost factors and an appropriate number of respondents within each school district. The total number of districts available for the sample was seventy-two. A minimum of two districts would be required for each quartile to make statistical comparisons. The fourth quartile included ten possible districts. It was decided to pick two districts for the sample because of the large number of respondents within these two districts. If a larger number of districts were selected, the number of respondents for second and first quartile districts would be beyond the workable limits of the researcher. The two districts to be selected represented twenty per cent of the total available, therefore approximately twenty per cent of each quartile was selected for the sample. Table 10 shows the total number of districts rated on the four cost-factors and the number deemed necessary for this study.

TABLE 10.--Quartile ranking and the number of school districts selected for this study.

	Q_4	Q_3	Q_2	Q_1
Total N.	10	6	22	34
Sample N.	2	2	4	6

A table of random numbers was used to select the districts in each quartile to represent the twenty per cent deemed necessary for this study. The fourteen school districts selected by random numbers were contacted by mail explaining the purposes of the study and asking their participation. Twelve districts gave their immediate consent, but two districts declined to participate in the study. Alternate school districts were drawn from the representative quartiles to obtain the required fourteen school districts.

In order to pick the number of respondents necessary for each selected school district the universe of potential respondents was determined with the total number of students in the district as the base. These population figures were rounded to the nearest tenth. The extreme variation in number of pupils from the fourth quartile to the first quartile required that a different percentage be applied to each quartile to derive a comparable number of respondents. The percentages used

were: one per cent for the fourth quartile, two per cent for the third quartile, five per cent for the second quartile, and ten per cent for the first quartile. The application of these percentages to each quartile provided for the distribution of 3,729 instruments in the State of Michigan.

Table 11 is designed to show the number of respondents drawn from each school district sampled. The table shows the coded number for each district, the quartile a district represents, the potential number of respondents, the specific number of batteries distributed, and the percentage used for each quartile to derive the required number of respondents.

Distribution and Collection of the Instrument

General Procedure

Each participating district was visited by the researcher on a mutually arranged date. The researcher visited with the superintendent and building principals to explain the purposes of the study. On recommendation from the school administrators, schools were selected to represent the broadest socio-economic levels of the community. The principals selected sixth and twelfth grade teachers with whom the researcher could discuss the purposes of the study. The teachers were informed

TABLE 11.--Total school district population and number deemed necessary for this study.

Dist.	Quartile	Elem. Pupils: Total Enrollment	Elem. Pupils: # in Sample	Secon. Students: Total Enrollment	Secon. Students: # in Sample	Parents: Sample	Parents: Sub-Sample	Patrons: Sample	Patrons: Sub-Sample	Faculty: Total	Faculty: # in Sample	% Used to Derive Sample
1	4	4,400	44	4,400	44	4,400	44	4,400	44	450	5	1
2	4	8,600	86	8,600	86	8,600	86	8,600	86	860	10	1
	Total	13,000	130	13,000	130	13,000	130	13,000	130	1,310	15	
3	3	2,800	56	2,800	56	2,800	56	2,800	56	245	6	2
4	3	3,200	64	3,200	64	3,200	64	3,200	64	300	6	2
	Total	6,000	120	6,000	120	6,000	120	6,000	120	545	12	
5	3	2,300	115	2,300	115	2,300	115	2,300	115	170	9	5
6	2	300	15	300	15	300	15	300	15	25	3	5
7	2	600	30	600	30	600	30	600	30	45	3	5
8	2	2,500	125	2,500	125	2,500	125	2,500	125	210	10	5
	Total	5,700	285	5,700	285	5,700	285	5,700	285	440	23	
9	1	900	90	900	90	900	90	900	90	70	7	10
10	1	500	50	500	50	500	50	500	50	40	4	10
11	1	200	20	200	20	200	20	200	20	20	2	10
12	1	700	70	700	70	700	70	700	70	60	6	10
13	1	750	75	750	75	750	75	750	75	70	7	10
14	1	700	70	700	70	700	70	700	70	50	5	10
	Total	3,750	375	3,750	375	3,750	375	3,750	375	310	31	
Grand Total		28,540	912	28,540	912	28,540	912	28,540	912	2,655	81	

about the purposes, distribution, and collection of the instrument. Cooperation from teachers was good in all districts. All efforts were made to complete the study with as little disruption to class activities as possible.

Elementary Pupils

The sixth grade was chosen to represent the elementary pupils because they are concluding their elementary education. The instrument was distributed and collected by the researcher or the classroom teacher in one thirty-minute period. Ten per cent of the number distributed was identified with code numbers to be re-tested within three weeks for a check on instrument reliability. The classroom teacher administered this second testing at her convenience.

Secondary Students

The twelfth grade was chosen to represent the secondary students because of their level of maturity and long association with the secondary schools of the district. The instrument was distributed by either the researcher or the classroom teacher in one thirty-minute period. Ten per cent of the number distributed was identified with code numbers to be re-tested within three weeks for a check on instrument reliability. The classroom teacher administered this second testing at her convenience.

Parents

Parents were contacted through the pupils sampled in the sixth grade. The sixth graders were asked to take the instrument home, have a parent fill it out, and return it to their respective classrooms. The previously coded pupils, for re-testing, were instructed to take a second instrument home to be completed within three weeks as a check on instrument reliability.

Patrons

Patrons were contacted through the pupils sampled in the sixth grade. The sixth graders were asked to contact a neighbor with no children in the public schools. Patrons, after completion of the instrument, returned it to the sixth grader who took it to school for collection. The previously coded pupils, for re-testing, were instructed to take a second instrument to the same patron within a three-week period as a check on instrument reliability.

Faculty

The teachers in charge of the sampled sixth and twelfth grade classes were asked to complete the instrument along with those selected by the building principals to derive the required sample number. Ten per cent of the teachers were requested to repeat the instrument

within a three-week period as a check on instrument reliability.

A month after the first visit, the researcher returned to the schools to collect the completed instruments. A check was made to see that the appropriate number had been collected and that instructions had been followed.

Treatment of the Data

The researcher sorted the instruments into six classifications: (1) elementary pupils, (2) secondary students, (3) parents, (4) patrons, (5) faculty, and (6) first and second testing of all groups for reliability. The instruments for reliability were coded to indicate first and second testing. The instruments were then sorted by school district to be punched on IBM cards. A print-out of the tabulations was requested to facilitate checking required sample numbers and the computations necessary for statistical tests.

Statistical Methods

The data recorded are clearly of a nominal nature (favorable-unfavorable) requiring the application of non-parametric procedures for the tests of significance. The significance testing answers the question of independence for the various groups sampled. The specific statistical tests used are:

1. The Chi Square (X^2) is used to test the significance of difference between the proportion of favorable response by item for fourth, third, second, and first support quartile districts within each battery.

2. The Chi Square (X^2) is used to test the significance of difference between the proportion of favorable response by item of elementary pupils, secondary students, parents, patrons, and faculty within fourth, third, second, and first support quartile districts.

3. The estimate of item reliability is based on the consistency of the first testing to the second testing for a selected sample using a Pearson product-moment correlation method.

4. State norms are computed for the total sample of school districts by the application of the standard error of a percentage at the 95% confidence level.

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CHAPTER IV

ANALYSIS OF THE HYPOTHESES

Introduction

This chapter analyses the two research hypotheses of this study. Each section presents the results of the statistical treatment in summary form, the rejection or acceptance of the hypotheses, and the interpretation of the various tests used. Section one is the analysis of the What Do You Think About Your Schools ability to discriminate by battery between fourth, third, second, and first support quartile districts. Section two is the analysis of the instrument's ability to discriminate between elementary pupils, secondary students, parents, patrons, and faculty within each cost-quartile.

The hypotheses are stated in the null form for each statistical test. The .05 level of significance is used to define the probability level. If the probability level is smaller the .05 then the data is considered contradictory to the hypotheses and a decision to reject the null hypotheses is made. Rejection of the null hypotheses means the research hypotheses are accepted.

Hypothesis I

The first general null hypothesis and five operational null hypotheses are as follows:

The What Do You Think About Your Schools instrument will not discriminate between the attitudes of elementary pupils, secondary students, parents, patrons, and faculty on the basis of financial support quartiles of Michigan school districts (K-12). Support quartile is defined in terms of size, effort, ability, and expenditure.

HIa: The instrument will not show ability to discriminate between fourth, third, second, and first financial support quartile districts on each item score according to elementary pupil's responses.

HIb: The instrument will not show ability to discriminate between fourth, third, second, and first financial support quartile districts on each item score according to secondary student's responses.

HIc: The instrument will not show ability to discriminate between fourth, third, second, and first financial support quartile districts on each item score according to parent's responses.

HId: The instrument will not show ability to discriminate between fourth, third, second, and first financial support quartile districts on each item score according to patron's responses.

HIe: The instrument will not show ability to discriminate between fourth, third, second, and first financial support quartile districts on each item score according to faculty's responses.

Statistical Tests and Treatment

The Chi Square (X^2) distribution was used to test the significance of the observed differences between the proportion of favorable response by quartile for each battery. The limits within which the hypotheses will be accepted or rejected is based on the 0.05 level of

significance ($P > .05$). The "X^2" values which cut-off five per cent of the "X^2" distribution provide the relative measure of difference between the proportion of favorable response. The "X^2" will be numerically large when (1) the null hypothesis is not true, or (2) the null hypothesis is true but the difference between the proportion can be accounted for by the errors expected on the basis of the assumptions underlying the use of this experimental design. The null hypothesis will be accepted if the "X^2" value does not reach the .05 level of significance. The region of rejection for the "X^2" varies according to the "degree of freedom" (d.f.) for the specific hypothesis tested.

Results of the Statistical Treatment

In order to determine if the What Do You Think About Your Schools instrument would discriminate between financial support quartiles the proportion of favorable response for each item was compared by battery. The first null hypothesis is:

HIa: The instrument will not show ability to discriminate between fourth, third, second, and first financial support quartile districts on each item score according to elementary pupil's responses.

Table 12 presents the items that are significant at $P > .05$ for elementary pupils. Of the 37 items responded to by elementary pupils only 17 were significant at the $P > .05$ level. The total number significant (17) does

TABLE 12.--Total number of items significant at P > .05 by battery across quartile.[1]

Item	Elementary Pupils	Secondary Students	Parents	Patrons	Faculty
Satisfaction with Schools					
Like School	+	+*	NS	--	NS
Student Feels Part of Group	NS	+*	NS	--	NS
Teacher Knows Child	+	+*	NS	--	NS
Teacher Gives Help	+	NS	NS	--	NS
Value of Studies	+*	+*	NS	--	NS
Proud of School	NS	+*	NS	NS	NS
Teacher Interest in Child	NS	+*	NS	--	NS
Schools Compare Favorably	+	--	NS	NS	--
Elementary Schools					
Curriculum	--	--	--	--	NS
Teaching Staff	--	--	--	--	NS
Building	--	--	--	--	NS
Equipment	--	--	--	--	NS
Secondary Schools					
Curriculum	--	+	--	--	+
Teaching Staff	--	+*	--	--	NS
Building	--	NS	--	--	+
Equipment	--	+	--	--	NS

[1]A "+" indicates significance, a "NS" indicates non-significance, a "+*" indicates significance with low support schools scoring higher than high support schools, and a "--" means the item was not asked in that battery.

TABLE 12.--Continued

Item	Elementary Pupils	Secondary Students	Parents	Patrons	Faculty
Satisfaction with Schools	NS	+*	NS	NS	NS
Interest in School's Future	+	+*	NS	NS	NS
School Program					
Effectiveness of Studies	NS	NS	+	--	NS
Part in Extra-Curricular Activities	NS	NS	+	--	NS
Amount of Work to Keep Up	NS	NS	+	--	NS
Amount of Homework	+	NS	NS	--	NS
Enough Extra-Curricular Activities	NS	+	+*	--	NS
School Creates Interest in Extra-Curricular Activities	NS	+*	NS	--	+
Variety of Subjects	+	+	+	--	+
Subject Wanted not Taught	NS	+	+	--	NS
Help from Librarian	+	+*	NS	--	NS
Money Needed for School	+*	NS	+*	NS	NS
Usefulness of Subjects	NS	NS	NS	NS	NS
Essential Services Desired					
Audio-Visual	+	NS	NS	NS	NS

TABLE 12.--Continued

Item	Elementary Pupils	Secondary Students	Parents	Patrons	Faculty
Physical Education	NS	+*	NS	NS	NS
Field Trips	+	NS	NS	NS	NS
Music	NS	+	+	NS	NS
Art	+	+	+	+	NS
Hot Lunch	+*	+*	+*	+*	+*
Physical and Dental Examination	+*	NS	+*	NS	NS
Job Placement	--	NS	NS	NS	NS
Guidance	--	+*	+*	NS	NS
Speech Correction	NS	NS	NS	NS	NS
Mental Health Clinic	NS	NS	NS	NS	NS
Remedial Reading	NS	+	NS	NS	NS
Special Education	NS	NS	+*	+	NS
Adult Education	--	+	NS	NS	NS
Agriculture Program	--	+*	+*	+*	+*
Social Activities	NS	+*	+*	NS	NS
Summer School	+*	+	NS	+	NS
Driver Training	--	+*	NS	NS	NS

TABLE 12.--Continued

Item	Elementary Pupils	Secondary Students	Parents	Patrons	Faculty
School Organization					
School Overcrowded	NS	+	+	--	NS
Supervisory Assistance	--	--	--	--	+
School Plant					
Adequate Equipment and Facilities	+	+	+	--	NS
Community Relations					
School-Community Relations	--	--	NS	NS	+*
Faculty Status in Community	--	--	NS	NS	NS
School As Informant	--	--	NS	NS	NS
Minutes Published	--	--	+	+	NS
Parent-Teacher Relations	--	--	+	--	+
Parent-Teacher Conferences	--	--	NS	--	NS
PTA Effectiveness	--	--	NS	--	NS
Taxes and Services Rendered	--	--	NS	NS	NS
Increase Taxes	--	--	+	NS	--
Know Child's Teacher or Parent	--	--	+	--	NS
School-Community Information	--	--	+	NS	NS
Interest of Parents in School Activities	NS	NS	NS	--	NS

not indicate the true number that support the research hypothesis since "X^2" is not sensitive to direction. Additional analysis is needed to see if high support districts received the highest scores in terms of favorable response. This was done by observing the scores to see if they corresponded with expected cost-quartile, i.e. high support districts receiving the highest scores. Appendix B shows the total scores obtained, the "X^2" derived, degrees of freedom, and shows whether the item is significant at $P > .05$. This analysis revealed that 5 of the 17 significant items are in the opposite direction anticipated by the research hypothesis. In other words, low support districts scored higher than high support districts.

The second null hypothesis is:

HIb: The instrument will not show ability to discriminate between fourth, third, second, and first financial support quartile districts on each item score according to secondary student's responses.

Table 12 presents the items that are significant at $P > .05$ for secondary students. Of the 45 items responded to by secondary students 29 were significant. The 29 significant items include 17 items that are significant but indicate that low support districts scored higher than high support districts, thus these items do not support the research hypothesis. Appendix C shows the total scores obtained, the "X^2" derived, degrees of

freedom, and shows whether the item is significant at $P > .05$ for secondary students.

The third null hypothesis tested is:

HIc: The instrument will not show ability to discriminate between fourth, third, second, and first financial support quartile districts on each item score according to parent's responses.

Table 12 presents the items that are significant at $P > .05$ for parents. The total number of items for parents is 56. Of the 56 items 22 are significant. The 22 significant items include 8 which indicate that low support districts scored higher than high support districts. Appendix D shows the total scores obtained, the "X^2" derived, degrees of freedom, and shows whether the items are significant at $P > .05$ for parents.

The fourth null hypothesis tested is:

HId: The instrument will not show ability to discriminate between fourth, third, second, and first financial support quartile districts on each item score according to patron's responses.

Table 12 indicates the items that are significant at $P > .05$ for patrons. The total number of items for patrons is 31 of which 6 are significant. The 6 significant items include 2 which are significant but indicate that low support districts scored higher than high support districts. Appendix E shows the total scores by quartile, the "X^2" derived, degrees of freedom, and shows whether the items are significant at $P > .05$ for patrons.

The fifth null hypothesis tested is:

HIe: The instrument will not show ability to discriminate between fourth, third, second, and first financial support quartile districts on each item score according to faculty's responses.

Table 12 presents the items that are significant at $P > .05$ for faculty. The total number of items is 60. 9 of the 60 items are significant for faculty. The 9 significant items include 3 which are significant but indicate that low support districts scored higher than high support districts. These 3 items do not support the research hypothesis that high support districts should be more favorable in response to the items than low support districts. Appendix F shows the total scores obtained, the "X^2" derived, degrees of freedom, and shows whether the items are significant at $P > .05$ for faculty.

Implications of the Statistical Treatment

The results of the statistical treatment clearly indicates that the What Do You Think About Your Schools instrument does not discriminate by financial support quartile on the majority of items. The research hypothesis that high support districts will score higher than low support districts is significant for 32% of the elementary pupil's items, 27% of secondary student's items, 25% of parent's items, 13% of patron's items, and 10% of faculty's items. These percentages do not warrant the conclusion that the instrument will discriminate between

financial support quartiles. Elementary pupils, who have the lowest level of maturity and least amount of experience with the school situation, have the highest percentage of significant responses to the specific items. The responses of faculty have the lowest percentage of significant items. The evidence indicates that faculty members from all four quartiles have similar attitudes toward the schools. This conclusion could be accounted for by the rather homogeneous socio-economic class and professional training of faculty members. Faculty members seem to be unaware of size and financial differences between school districts.

An analysis of the six categories for the five batteries shows that the following percentages of items were significant: (1) "Satisfaction with School"--17% (2) "School Program"--28%, (3) "Essential Services Desired"--15%, (4) "School Organization and Size"--50%, (5) "School Plant"--75%, and (6) "Community Relations"--22%. The categories with the highest percentage of significant items were (1) "School Organization and Size"--50%, and (2) "School Plant"--75%. These two categories are the most concrete in nature for the five batteries and seem to point out that discrimination between financial support quartile is possible if specific items are used. The category "Essential Services Desired" has the lowest percentage of significant items indicating that

respondents at all levels of financial support view "Essential Services Desired" in much the same fashion.

Summary

1. The What Do You Think About Your Schools instrument does not discriminate between fourth, third, second, and first financial support quartile districts for the majority of items (Table 12).

2. The highest percentage of significant items (32%) are found in the elementary pupils's battery. The lowest percentage of significant items (10%) are found in the faculty's battery.

3. The categories with the highest percentage of items significant are "School Organization and Size" and "School Plant." These two categories have the smallest number of items, but are the most specific for the school situation.

4. The results of these significance tests indicate that elementary pupils, secondary students, parents, patrons, and faculty have similar attitudes about their schools regardless of the amount of financial support given to their schools or the size of their district.

5. The development of norms based on financial support quartiles would be meaningless, since there is no difference between the batteries on the basis of financial support.

Hypothesis II

The second general null hypothesis and four operational null hypotheses are as follows:

The What Do You Think About Your Schools instrument will not show ability to discriminate between the responses of elementary pupils, secondary students, parents, patrons, and faculty within fourth, third, second, and first financial support quartiles of Michigan school districts.

HIIa: The instrument will not discriminate between responses of elementary pupils, secondary students, parents, patrons, and faculty on each item score for fourth financial support quartile districts.

HIIb: The instrument will not discriminate between responses of elementary pupils, secondary students, parents, patrons, and faculty on each item score for third financial support quartile districts.

HIIc: The instrument will not discriminate between responses of elementary pupils, secondary students, parents, patrons, and faculty on each item score for second financial support quartile districts.

HIId: The instrument will not discriminate between responses of elementary pupils, secondary students, parents, patrons, and faculty on each item score for first financial support quartile districts.

Statistical Tests and Treatment

The Chi Square (X^2) distribution was used to test the significance of the observed difference between the proportion of favorable response by battery within each quartile. The limits within which the hypothesis will be accepted or rejected are based on the 0.05 level of significance ($P > .05$). The "X^2" will be numerically large when (1) the null hypothesis is not true, or (2) the null hypothesis is true but the difference between

the batteries can be accounted for by errors expected on the basis of the assumptions underlying the use of this experimental design. The null hypothesis will be accepted if the value of "X^2" does not reach the .05 level of significance. The region of rejection for "X^2" varies depending upon the "degrees of freedom" (d.f.) for the specific hypothesis tested.

Results of the Statistical Treatment

In order to determine if the What Do You Think About Your Schools instrument would discriminate between elementary pupils, secondary students, parents, patrons, and faculty within a given financial support quartile, the proportion of favorable response was compared for each item. The first null hypothesis is:

HIIa: The instrument will not discriminate between responses of elementary pupils, secondary students, parents, patrons, and faculty on each item score for fourth financial support quartile districts.

Table 13 presents the items that are significant at $P > .05$ for fourth quartile districts. Of the 54 items responded to by elementary pupils, secondary students, parents, patrons, and faculty for fourth quartile districts, 33 were significant at $P > .05$. This can be interpreted that 33 items of the responding batteries' percentage of favorable response were significantly different from each other for fourth quartile school districts. Conversely, 21 items were not significant at

TABLE 13.--The items for each quartile across batteries significant at P > .05.[1]

Item	Q_4	Q_3	Q_2	Q_1
Satisfaction with Schools				
Like School	+	+	+	+
Student Feels Part of Group	+	+	+	+
Teacher Knows Child	+	+	+	+
Teacher Gives Help	-	+	+	-
Value of Studies	+	+	+	+
Proud of School	+	+	+	-
Teacher Interest in Child	+	+	+	+
Schools Compare Favorably	+	+	+	+
Satisfaction with Schools	+	+	+	+
Interest in Schools Future	+	+	+	+
School Program				
Effectiveness of Studies	+	+	+	+
Part in Extra-Curricular Activities	+	+	+	+
Amount of Work to Keep Up	+	+	+	+
Amount of Homework	-	+	+	+
Enough Extra-Curricular Activities	+	+	+	+
School Creates Interest in Extra-Curricular Activities	+	+	+	+
Variety of Subjects	-	+	+	+
Subject Wanted not Taught	+	+	+	+
Help from Librarian	+	+	-	-
Money needed for School	+	+	+	+
Usefulness of Subjects	+	+	+	+
Essential Services Desired				
Audio-Visual	-	-	-	+
Physical Education	+	+	-	-
Field Trips	+	-	+	+
Music	+	+	+	+
Art	+	-	+	+
Hot Lunch	+	-	+	+
Physical and Dental Examination	+	+	+	+

[1] A "+" is significant at P > .05 and a "-" is not significant at P > .05.

TABLE 13.--Continued

Item	Q_4	Q_3	Q_2	Q_1
Job Placement	-	-	+	-
Guidance	-	-	-	+
Speech Correction	+	+	+	+
Mental Health Clinic	+	+	+	+
Remedial Reading	+	+	+	+
Special Education	+	+	+	+
Adult Education	-	-	-	+
Agriculture Program	-	-	+	-
Social Activities	-	-	-	+
Summer School	+	+	+	+
Driver Training	-	-	+	+
School Organization and Size				
School Overcrowded	+	+	+	+
Supervisory Assistance	-	-	-	-
School Plant				
Adequate Equipment and Facilities	+	+	+	+
Community Relations				
School-Community Relations	-	-	+	+
Faculty Status in Community	-	-	-	+
School as Informant	-	-	+	+
Minutes Published	-	-	-	-
Parent-Teacher Relations	-	-	-	+
Parent-Teacher Conferences	-	-	-	-
PTA Effectiveness	-	-	+	+
Taxes and Services Rendered	-	-	-	-
Increase Taxes	-	-	-	-
Know Child's Teacher or Parent	-	-	-	+
School-Community Information	+	-	-	-
Interest of Parents in School Activities	+	+	+	+

P > .05. This means on 21 items the responding batteries' percentage of favorable response were statistically the same. Further interpretation would indicate that for the 21 non-significant items the score of one battery will be approximately the same as the other batteries for that specific item. Additional statistical information can be obtained in Appendix G which shows the number of respondents for each battery, the percentage of favorable response, the "X^2" obtained, the degrees of freedom, and whether the item is significant at P > .05.

The second null hypothesis tested is:

HIIb: The instrument will not discriminate between responses of elementary pupils, secondary students, parents, patrons, and faculty on each item score for third financial support quartile districts.

Table 13 indicates the items that are significant at P > .05 for third quartile school districts. The 54 items include 32 items significant at P > .05 and 22 not significant at P > .05. The 32 significant items indicate that elementary pupils, secondary students, parents, patrons, and faculty responded to these items at different levels of favorable response. 22 of the items were responded to nearly the same, therefore the different batteries scores were similar. Appendix H presents the number for each respondent group, the percnetage of favorable response, the "X^2" obtained, the degrees of freedom, and whether the item is significant at P > .05.

The third null hypothesis tested is:

HIIc: The instrument will not discriminate between responses of elementary pupils, secondary students, parents, patrons, and faculty on each item score for second financial support quartile districts.

Table 13 presents the items that are significant at $P > .05$ for second quartile school districts. 39 of the 54 items are significant at $P > .05$. 15 items are not significantly different at $P > .05$, and therefore indicate that these items are responded to with similar scores for elementary pupils, secondary students, parents, patrons, and faculty. Appendix I shows the number of respondents by battery, the percentage of favorable response, the "X^2" derived, the degrees of freedom, and the significance of the item at $P > .05$.

The fourth null hypothesis tested is:

HIId: The instrument will not discriminate between responses of elementary pupils, secondary students, parents, patrons, and faculty on each item score for first financial support quartile districts.

Table 13 points out the items that are significant at $P > .05$ for first quartile school districts. 42 of the 54 items are significant at $P > .05$. Only 12 items are not significant indicating a similar score for all respondent groups. Appendix J presents the number of respondents for each battery, the percnetage of favorable response, the "X^2" derived, the degrees of freedom, and whether the item is significant at $P > .05$.

Implications of the Statistical Treatment

The statistical treatment points out the instrument's ability to differentiate between responses of elementary pupils, secondary students, parents, patrons, and faculty by quartiles for the majority of items. This indicates that the five batteries measure attitudes about schools from different view-points and the total comparison across batteries is meaningful. An analysis of the four quartiles shows the following percentage of significant items: (1) fourth quartile--61%, (2) third quartile--59%, (3) second quartile--72%, and (4) first quartile--77%. It would seem that the low support districts have the greatest amount of discrimination by battery of the four quartiles tested.

The categories have the following percentage of significant items: (1) "Satisfaction with Schools"--93%, (2) "School Program"--91%, (3) "Essential Services Desired"--65%, (4) "School Organization and Size"--50%, (5) "School Plant"--100%, and (6) "Community Relations"--29%. The only category with a small number of significant items is "Community Relations." An analysis of the category "Community Relations" indicates some of the possible reasons for the low number of significant items: (1) the category is responded to by adults (parents, patrons, and faculty) except for one item; (2) high financial support districts (Q_4 and Q_3) failed to discriminate

as well as low financial support districts (Q_2 and Q_1); and (3) the number of total respondents is smaller for parents, patrons, and faculty than for elementary pupils and secondary students, thus affecting the magnitude of the "X^2" necessary for an item to be significant at $P > .05$.

The category "School Organization and Size" has only two items. The item "Supervisory Assistance" is responded to by faculty only, therefore no significance test can be administered. These two categories, because of the number of items, produce a high percentage of significant items.

Summary

1. The What Do You Think About Your Schools instrument does discriminate between elementary pupils, secondary students, parents, patrons, and faculty by quartiles.

2. Low support school districts discriminate on more items than high support school districts.

3. Of the six categories only "Community Relations" has a majority of non-significant items. This would indicate that adults view the items in a similar fashion.

4. The continued use of elementary pupils, secondary students, parents, patrons, and faculty to measure school district attitudes seems justified. Each group supplies its own particular piece of information about the school assessment project.

CHAPTER V

RELIABILITY COEFFICIENTS AND NORMS FOR THE WHAT DO YOU THINK ABOUT YOUR SCHOOLS BATTERIES

Introduction

This chapter will present the findings for reliability and norms for the What Do You Think About Your Schools batteries. Section one considers the research question dealing with the establishment of reliability coefficients for each battery by item. The statistical tests used to determine reliability will be presented along with complete tables of each reliability coefficient by battery and item. Section two presents the norms constructed from the sample school districts. The research question proposed will be followed with the results found for the school districts sampled. The statistical tests used to determine these norms are described.

Reliability Coefficients

This section presents results to the research question concerning the reliability of each battery of the instrument, What Do You Think About Your Schools. The method of determining reliability was a test-retest of the instrument to an identified sample of the total sample.

This would indicate the variation of attitudes over time or the failure of the instrument to measure the same responses over a period of time.

The number of respondents identified for the reliability study was approximately ten per cent of the total number of questionnaires distributed in the districts. This ten per cent was identified with code numbers for completion of the same instrument after three weeks. Table 14 shows the number of total respondents and the number identified for the reliability study.

TABLE 14.--Number of respondents for the reliability study by battery and item.

Battery	Total Sample N.	Sub-sample for Reliability N.
Elementary Pupils	882	65
Secondary Students	869	73
Parents	739	56
Patrons	480	58
Faculty	87	33

A Pearson's product-moment coefficient was computed for each item by battery. This coefficient indicates the consistency of the instrument from test to retest. The higher the coefficient the better the item. Table 15

TABLE 15.--The reliability coefficients of the instrument, What Do You Think About Your Schools by battery for each item.

Factor	Elementary Pupil	Secondary Student	Faculty	Parent	Patron
Satisfaction with Schools					
Like School	.80	.78	.37	.48	--
Student Feels Part of Group	.72	.85	.63	.79	--
Teacher Knows Child	.78	.87	.66	.55	--
Teacher Gives Help	.34	.71	.88	.65	--
Value of Studies	.57	.75	.76	.56	--
Proud of School	.77	.77	.83	.72	.62
Teacher Interest in Child	.75	.77	.65	.57	--
Schools Compare Favorably	.64	.78*	.80**	.65	.38
Satisfaction with Schools	.47	.65	.62	.71	.25
Interest in Schools' Future	.60	.70	.67	.67	.56
School Program					
Effectiveness of Studies	.50	.68	.80	.74	--
Part in Extra-Curricular Activities	.49	.72	.51	.52	--
Amount of Work to Keep Up	.69	.64	.71	.66	--
Amount of Homework	.70	.62	.78	.68	--

* and ** are derived by averaging correlations for: (1) curriculum, (2) teaching staff, (3) buildings, and (4) equipment.

TABLE 15.--Continued

Factor	Elementary Pupils	Secondary Student	Faculty	Parent	Patron
Enough Extra-Curricular Activities	.61	.70	.66	.62	--
School Creates Interest in Extra-Curricular Activities	.76	.67	.78	.65	--
Variety of Subjects	.44	.80	.85	.47	--
Subject Wanted not Taught	.59	.76	.80	.58	--
Help from Librarian	.84	.78	.86	.87	--
Money Needed for School	.77	.55	.66	.34	--
Usefulness of Subjects	.40	.66	.55	.80	.53
Essential Services Desired					
Audio-Visual	.71	.67	.65	.47	.70
Physical Education	.47	.60	.68	.60	.78
Field Trips	.36	.72	.44	.54	.52
Music	.67	.74	.58	.75	.50
Art	.74	.73	.45	.64	.49
Hot Lunch	.57	.59	.55	.57	.76
Physical and Dental Examination	.76	.71	.77	.62	.63
Job Placement	--	.58	.56	.41	.78
Guidance	--	.50	.43	.41	.67
Speech Correction	.66	.75	.51	.32	.66
Mental Health Clinic	.79	.52	.53	.70	.62
Remedial Reading	.52	.79	.30	.74	.61
Special Education	.60	.78	.76	.38	.54

TABLE 15.--Continued

Factor	Elementary Pupil	Secondary Student	Faculty	Parent	Patron
Adult Education	--	.66	.62	.64	.39
Agriculture Program	--	.64	.89	.51	.70
Social Activities	.51	.51	.70	.55	.65
Summer School	.68	.70	.77	.67	.75
Driver Training	--	.64	.60	.45	.63
School Organization and Size					
School Overcrowded	.67	.87	.69	.71	--
Supervisory Assistance	--	--	.70	--	--
School Plant					
Adequate Equipment and Facilities	.66	.71	.72	.72	--
Community Relations					
School-Community Relations	--	--	.52	.71	.64
Faculty Status in Community	--	--	.76	.69	.68
School as Informant	--	--	.60	.59	.61
Minutes Published	--	--	.62	.66	.66
Parent-Teacher Relations	--	--	-.19	.62	--
Parent-Teacher Conferences	--	--	.78	.67	--
PTA Effectiveness	--	--	.81	.58	--

TABLE 15.--Continued

Factor	Elementary Pupil	Secondary Student	Faculty	Parent	Patron
Taxes and Services Rendered	--	--	.56	.59	.18
Increase Taxes	--	--	--	.70	.72
Know Child's Teacher or Parent	--	--	.58	.45	--
School-Community Information	--	--	.59	.78	.52
Interest of Parents in School Activities	.33	.72	.55	.76	--

presents the reliability coefficients for each battery by item.

An analysis of Table 15 shows the items vary from a high correlation of .88 for facultys' response to Teacher Gives Help to a low correlation of -.19 for facultys' response to Parent-Teacher Relations. The high amount of variation for faculty is probably associated with the small number (33) of respondents to the test-retest situation. The battery with the highest correlations is secondary students. The lowest correlation for secondary students is .50 for the item Guidance. The battery with the lowest correlations is patrons with item correlations of .25 for Satisfaction with Schools, .38 for Schools Compare Favorably, and .18 for Taxes and Services Rendered.

The category with the lowest correlations for all batteries is Essential Services Desired. Fourteen of the items on the five batteries are below .50. All the items in categories School Organization and Size and School Plant are .66 or above, exhibiting the best reliability among the six categories.

How high must the reliability coefficient be in order to be useful? Attitude testing has never shown the high reliabilities of more concrete measures, such as achievement tests. Parten[1] (1950) investigated the

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[1]Mildred Parten, Surveys, Polls, and Samples (New York: Harper and Brothers, 1950), p. 500.

consistency of attitudes from testing to retesting and reports that there was a 24 per cent (reliability coefficient of .50) shift in scores about family data, factual personal data, and subjective personal opinions. Most of the shifts occurred with subjective personal opinions.

A widely quoted source concerning practical reliability coefficients is Kelley (1927). Kelley arrives at the following as minimum correlations for several purposes:

1. To evaluate level of group accomplishment--.50.
2. To evaluate differences in level of group accomplishment in two or more performances--.90.
3. To evaluate level of individual accomplishment--.95.
4. To evaluate differences in level of individual accomplishment in two or more performances--.98.[2]

It must be noted that these values are arbitrary. How low a reliability one is willing to accept depends upon the practical values which are involved in a particular case. If action is necessary and the only instruments available have a reliability of .50 or lower it is better than nothing and will produce useable results.[3]

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[2]Truman Kelley, Interpretation of Educational Measurement (New York: World Book Company, 1927).

[3]Robert L. Thorndike, "Reliability," in Educational Measurement, ed. by E. F. Lindquist (Washington: American Council on Education, 1951), p. 609.

Since this study is concerned with evaluation of group accomplishment, in relation to attitudes, a reliability coefficient of .50 or higher would produce useful results. Table 16 lists the battery items that are below .50. Of the total 229 items only 27 are below .50 reliability. The category with the highest number of coefficients below .50 is Essential Services Desired with 13. This would indicate that responses to specific services vary more than any other category of the five batteries. Additional study should be undertaken to revise this section of the five batteries to make the questions clearer.

The Spearman-Brown formula permits estimates of total battery reliability from an individual item. The formula for this estimate of battery reliability is:

$$\text{Battery reliability} = \frac{(\text{N. of items})\ (\text{reliability of item})}{1 + (\text{N. of items})\ (\text{reliability of item})}$$

Applying this formula to selected item reliability coefficients indicates that the five batteries range in total estimated reliability from .84 for patrons to .95 for secondary students. Table 17 indicates the estimates of battery reliability computed from the lowest positive item by battery as the bases of the estimate. These estimates of battery reliability indicate high reliability for the five batteries of the What Do You Think About Your Schools

TABLE 16.--Item reliabilities below .50 by battery.

Item	Elementary Pupils	Secondary Students	Faculty	Parents	Patrons
Satisfaction with Schools					
Like School	--	--	.37	.48	--
Teacher Gives Help	.34	--	--	--	--
Schools Compare Favorably	--	--	--	--	.38
Satisfaction with Schools	.47	--	--	--	.25
School Program					
Part in Extra-curricular activities	.49	--	--	--	--
Variety of Subjects	.44	--	--	.47	--
Money Needed for School	--	--	--	.34	--
Essential Services Desired					
Audio-Visual	--	--	--	.47	--
Physical Education	.47	--	--	--	--
Field Trips	.36	--	.44	--	--
Art	--	--	.45	--	.49
Job Placement	--	--	--	.41	--
Guidance	--	--	.43	.41	--
Speech Correction	--	--	--	.32	--

TABLE 16.--Continued

Item	Elementary Pupils	Secondary Students	Faculty	Parents	Patrons
Remedial Reading	--	--	.30	--	--
Special Education	--	--	--	.38	--
Adult Education	--	--	--	--	.39
Driver Training	--	--	--	.45	--
Community Relations					
Parent-Teacher Relations	--	--	-.19	--	--
Taxes and Services Rendered	--	--	--	--	.18
Interest of Parents in School Activities	.33	--	--	--	--

and therefore justify its use as part of school program assessment.

TABLE 17.--Estimates of battery reliability.

Battery	Item	Item r	Estimated Battery r
Elementary Pupils	Interest of Parents in School Activities	.33	.92
Secondary Students	Guidance	.50	.95
Parents	Speech Correction	.32	.94
Patrons	Taxes and Services Rendered	.18	.84
Faculty*	Remedial Reading	.30	.94

*.30 is the lowest positive correlation, although one item, Parent-Teacher Relations is -.19.

Norms for the Five Batteries of the What Do You Think About Your Schools

The results of Chapter IV indicated that there is no difference in degree of favorable response to the items by cost quartile. Therefore norms for the instrument are constructed on the total sample of school districts. This section describes the norms established for the five batteries by item. These norms are constructed by computing the standard error of a percentage (σ p.c.). The scores for the respective batteries are reported in percentage

of favorable response. The question that presents itself is--to what degree can the sample percentage of favorable response be indicative of the "true score" for the universe of potential respondents? Or to put it in terms of an example; is the favorable response to the item "Like School" correct within 3, 5, or 10 per cent? The smaller the standard error, the greater the precision of the estimate.

The formula for calculating the standard error of a percentage is:

$$\sigma \text{ p.c.} = \sqrt{\text{p.c.} \frac{(100-\text{p.c.})}{n}} \left(\frac{n-1}{n-2}\right)^{4}$$

The multiplier $\frac{n-1}{n-2}$ is dropped from the formula because of the large size of the sample. It would not effect the final error term enough to warrant its computation; therefore the formula used is:

$$\sigma \text{ p.c.} \sqrt{\frac{\text{p.c. } (100-\text{p.c.})}{n}}$$

To illustrate how this formula will work, the percentage of favorable response for "Like School" is 85.4%.

$$\sigma \text{ p.c.} = \sqrt{\frac{85.4\ (100-85.4)}{882}} = 1.18$$

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[4]Mildred Parten, op. cit., p. 500.

Thus we may conclude that there are two chances out of three that the estimate of 85.4% from our sample is within ± 1.18% of the correct value. If we multiply the σ p.c. by 2 we can conclude that the value of the standard error is correct 19 times out of 20 for a probability of .95.

The main assumption of this technique is that the sample estimate represents the population percentage, which is the most probable assumption in random sampling; but the sample estimate can be considerably off without greatly effecting the standard error.

A table can be constructed for the sample to indicate the range of scores by favorable response for each item at the .95 probability level. This will assure users of the instrument that the score derived should be within the stated range 19 times out of 20.

Table 18 presents the standard error range for the sample districts at the .95 probability level rounded to the nearest whole per cent.

Summary

This chapter dealt with the establishment of reliability coefficients for the five batteries by item and the norming of the five batteries on the randomly drawn sample of Michigan school districts. The following conclusions were reached:

1. The batteries are reliable from testing to testing, indicating that attitudes of elementary pupils,

TABLE 18.--Sample districts attitudes about the schools expressed in a range of percentage of favorable response at the .95 probability level.

Factor	Elementary Pupil	Secondary Student	Faculty	Parent	Patron
Satisfaction with Schools					
Like School	83-87	71-77	90-94	91-95	--
Student Feels Part of Group	71-77	59-65	97-98	91-95	--
Teacher Knows Child	87-91	74-80	91-95	87-91	--
Teacher Gives Help	92-96	89-93	100	81-87	--
Value of Studies	84-88	61-67	88-92	88-92	--
Proud of School	86-90	81-87	94-96	91-95	90-94
Teacher Interest in Child	79-85	70-76	96-98	82-88	--
Schools Compare Favorably	69-75	70-74*	74-78**	85-89	81-87
Satisfaction with Schools	85-89	71-77	82-86	87-91	81-87
Interest in Schools' Future	88-92	73-79	96-98	98-100	93-97
School Program					
Effectiveness of Studies	92-96	80-86	91-95	92-96	--
Part in Extra-Curricular Activities	62-68	68-74	84-88	75-81	--
Amount of Work to Keep Up	59-65	52-58	78-84	78-84	--
Amount of Homework	44-50	53-59	66-72	59-67	--
Enough Extra-Curricular Activities	52-58	67-73	76-82	85-89	--
School Creates Interest in Extra-Curricular Activities	57-63	65-71	69-75	73-79	--
Variety of Subjects	84-88	52-58	65-71	78-84	--
Subject Wanted not Taught	46-52	64-71	63-69	32-40	--

TABLE 18.--Continued

Factor	Elementary Pupil	Secondary Student	Faculty	Parent	Patron
Help from Librarian	67-73	54-60	57-63	54-62	--
Money Needed for School	61-67	89-93	66-72	72-78	67-75
Usefulness of Subjects	95-97	82-86	91-95	90-94	81-87
Essential Services Desired					
Audio-Visual	85-89	82-86	100	81-87	77-85
Physical Education	86-90	86-90	96-98	91-95	87-93
Field Trips	83-87	75-81	87-91	78-84	68-76
Music	63-69	71-77	100	86-90	82-88
Art	76-80	71-77	96-98	82-88	73-81
Hot Lunch	77-83	77-83	74-80	81-87	83-89
Physical and Dental Examination	65-71	50-56	66-72	68-74	73-81
Job Placement	--	76-82	72-78	63-69	65-73
Guidance	--	93-97	100	92-96	87-93
Speech Correction	77-83	88-92	97-99	94-98	91-95
Mental Health Clinic	68-74	73-79	85-89	80-86	75-83
Remedial Reading	78-84	78-84	97-99	90-94	88-94
Special Education	73-79	86-90	96-98	65-71	82-88
Adult Education	--	74-80	77-83	87-91	62-70
Agriculture Program	--	67-73	42-48	64-70	65-73
Social Activities	85-89	87-91	91-95	81-87	74-82
Summer School	53-59	75-81	76-82	71-77	64-72
Driver Training	--	94-96	88-92	89-93	88-94

TABLE 18.--Continued

Factor	Elementary Pupil	Secondary Student	Faculty	Parent	Patron
School Organization and Size					
School Overcrowded	25-31	54-60	72-78	39-47	--
Supervisory Assistance	--	--	71-77	--	--
School Plant					
Adequate Equipment and Facilities	33-39	23-29	34-40	50-58	--
Community Relations					
School-Community Relations	--	--	59-65	63-69	47-57
Faculty Status in Community	--	--	69-75	75-81	63-71
School as Informant	--	--	46-52	60-68	43-53
Minutes Published	--	--	76-82	71-77	74-82
Parent-Teacher Relations	--	--	82-86	86-90	--
Parent-Teacher Conferences	--	--	79-85	76-82	--
PTA Effectiveness	--	--	26-32	28-36	--
Taxes and Services Rendered	--	--	73-79	80-86	73-81
Increase Taxes	--	--	--	53-61	50-60
Know Child's Teacher or Parent	--	--	29-35	36-44	--
School-Community Information	--	--	34-40	44-52	33-41
Interest of Parents in School Activities	91-95	80-86	67-73	96-98	--

* and ** are derived by combining the norms for (1) curriculum, (2) teaching staff, (3) buildings, and (4) equipment.

secondary students, parents, patrons, and faculty are generally the same over a short period of time.

2. The category "Essential Services Desired" exhibits the weakest reliability and should be revised to increase the precision of responses to the various services presented. This is especially true for the parents', patrons', and facultys' batteries.

3. The reliability coefficients derived indicate that 27 of the 229 items must be interpreted with care. These coefficients indicate that the error present for these items require some caution in analyses. Estimates of battery reliability are high enough to indicate that the over-all pattern of scores are meaningful for school program assessment.

4. The norms established are derived from the total sample of Michigan school districts. This permits users of the What Do You Think About Your Schools to compare school district's item scores to the state-wide norms established for the purpose of school program assessment.

CHAPTER VI

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Summary

Purposes of the Study

The purposes of this study are three-fold: (1) to determine the ability of the What Do You Think About Your Schools to discriminate between the responses of elementary pupils, secondary students, parents, patrons, and faculty within and between cost quartiles; (2) to establish the instrument's reliability; and (3) to establish Michigan norms for the What Do You Think About Your Schools.

Two major hypotheses were formulated to test the discriminating ability of the instrument within the four financial support quartiles and between the five batteries by each financial support quartile. The two major hypotheses are:

1. The What Do You Think About Your Schools instrument will discriminate between the attitudes of elementary pupils, secondary students, parents, patrons, and faculty on the basis of financial support quartiles of Michigan

school districts (K-12). Support quartile is defined in terms of size, effort, ability, and expenditure.

2. The What Do You Think About Your Schools instrument will show ability to discriminate between the responses of elementary pupils, secondary students, parents, patrons, and faculty within fourth, third, second, and first financial support quartiles of Michigan school districts (K-12).

The need to improve the precision of the instrument required that two additional studies be done: (1) a study of item reliabilities, and (2) the establishment of norms for the total sample of school districts. These two studies established the stability of the instrument from test to test and provided a norm population against which users of the instrument could make comparisons.

Sample and Design

The sample was selected on the basis of a stratified random sample of Michigan school districts (K-12). The sample included two districts in the fourth quartile, two districts in the third quartile, four districts in the second quartile, and six districts in the first quartile. A one per cent sample of fourth quartile, a two per cent sample of third quartile, a five per cent sample of second quartile, and a ten per cent sample of first quartile were taken to determine the number of respondents for the district. Useable data were collected from

3,057 respondents representing 882 elementary pupils, 869 secondary students, 739 parents, 480 patrons, and 87 faculty members. Ten per cent of each battery was identified with code numbers for re-testing within three weeks as a check on instrument reliability.

Instrumentation and Data Collection

Data for this study came from two sources: (1) the Michigan Education Association's Ranking of Michigan High School Districts by Selected Financial Data for 1966-67, and (2) the responses to the five batteries of the What Do You Think About Your Schools.

The financial data on size, effort, ability, and expenditure was organized by quartiles and a composite quartile was derived rom the four financial characteristics. This procedure equated the districts within each quartile.

The measurement of attitudes was obtained through responses of elementary pupils, secondary students, parents, patrons, and faculty to the instrument, What Do You Think About Your Schools. This instrument is based on the assumption that attitudes of the school community can be measured with precision. Each battery varies in the number of items asked, but nineteen items are responded to by all groups. The total number of items for each battery is: (1) elementary pupils--37, (2) secondary students--45, (3) parents--53, (4) patrons--31, and

(5) faculty--60. Each battery consists of six categories, each dealing with some aspect of the school program: (1) satisfaction with schools, (2) school program, (3) essential services desired, (4) school organization and size, (5) school plant, and (6) community relations. The respondent indicates his choice to the item by checking a four-point value scale. The scores are dichotomized to indicate percentage of favorable and unfavorable response for each item.

Each district in the sample was visited by the researcher. The instruments were distributed with the cooperation of administrators and teachers to sixth graders, twelfth graders, parents of sixth graders, patrons who were neighbors of sixth graders, and teacher. An analysis of the returns for each battery included: (1) elementary pupils--96.7%, (2) secondary students--95.3%, (3) parents--81%, (4) patrons--52.6%, and (5) faculty--100%.

Method of Treatment and Analysis

The testing of the two hypotheses required the use of a statistical test for non-parametric data, since the responses were reported in percentage of favorable response. The following tests of significance were used:

1. The Chi Square (X^2) was used to test the significance of difference between the percentage of favorable

response by item for fourth, third, second, and first support quartile districts within each battery.

2. The Chi Square (X^2) was used to test the significance of difference between the percentage of favorable response by item for elementary pupils, secondary students, parents, patrons, and faculty within fourth, third, second, and first support quartile districts.

Three other statistical procedures were undertaken to increase the precision of the instrument.

1. Item reliability was determined for the consistency of the first testing to the second testing for a ten per cent sample of the total sample using a Pearson product-moment correlation method.

2. Estimates of battery reliability were computed using a Spearman-Brown prophecy formula for estimating total battery reliability.

3. State norms were computed for the total sample of school districts by the application of the standard error of a percentage at the 95% confidence level.

Scope and Delimitations of the Study

The parameters of this study were delimited by the following factors:

1. The major variables in this study were the individual's attitudes, as measured by the What Do You Think About Your Schools and the cost factors of size,

effort, ability, and expenditure as derived from the Michigan Education Association's, Ranking of Michigan High School Districts by Selected Financial Data for 1966-67.

2. The study was limited to a sample of fourth, third, second, and first quartile school districts in the State of Michigan. No results were drawn from individual school districts.

3. This study used only selected financial cost factors and did not include all possible permutations of cost analyses.

4. The findings of a relationship between school-community attitudes and financial factors were viewed as associational and not causal.

5. The study assumed that the individual sampled would respond to the instrument with his true perceptions in regards to the school-community situation.

Major Findings

The major findings of this study were:

1. The What Do You Think About Your Schools instrument does not discriminate between fourth, third, second, and first financial support quartile districts on the majority of items. The percentage of significant items for each battery was: (1) elementary pupils--32%, (2) secondary students--27%, (3) parents--25%, (4) patrons--13%, and (5) faculty--10% (Table 12). The categories with the

highest percentage of significant items were "School Organication and Size" with 50% and "School Plant" with 75%. These two categories have the smallest number of items, two and one respectively, but are the most specific for the school situation (Table 12).

2. The What Do You Think About Your Schools instrument did discriminate between elementary pupils, secondary students, parents, patrons, and faculty within each financial support quartile. An analyses of the four quartiles indicates the following percentage of significant items: (1) fourth quartile--61%, (2) third quartile--59%, (3) second quartile--72%, and (4) first quartile--77%. Low support districts had more significant items than high support school districts (Table 13). The categories had the following percentages of significant items: (1) satisfaction with schools--93%, (2) school program--91%, (3) essential services desired--65%, (4) school organization and size--50%, (5) school plant--100%, and (6) community relations--29% (Table 13).

3. The What Do You Think About Your Schools instrument produced item reliability coefficients ranging from a high of .88 for faculty response to "Teacher Gives Help" to a low correlation of -.19 for faculty response to "Parent-Teacher Relations" (Table 15). Of the total 229 items for the five batteries, only 27 were below .50 (Table 16). The category that had the highest number of

low reliability coefficients (<.50) was "Essential Services Desired" with 13 (Table 16).

4. The What Do You Think About Your Schools instrument produced useable norms for the State of Michigan at a 95% confidence level. The standard error of a percentage was applied to each item providing a range of percentages to which users of the instrument could make comparisons (Table 18).

Conclusions

This study provides several conclusions regarding the relationship between community attitudes and the factors of size, effort, ability, and expenditure. It also provides conclusions regarding the item reliability of each battery and norms for a sample of Michigan school districts.

The conclusions derived are:

1. There is no difference in the attitudes of the five groups sampled according to financial support quartiles. High support district scores are similar to low support district scores. This would indicate that attitudes at all levels of financial support were not dependent on size, effort, ability, and expenditure. The instrument measures a distinct variable other than financial support, which supplies useful information to a curriculum assessment model.

2. The items that did reflect high scores for high quartile districts were those most directly related to financial expenditure, i.e. "School Overcrowded," "Supervisory Assistance," "Adequate Equipment and Facilities," and "Variety of Subjects" (Table 12).

3. Items dealing with interpersonal relationships and communications within the districts (category--"Community Relations") showed that high quartile districts did not score higher than low support districts. This would seem to indicate that large relatively wealthy districts are not doing a better job of relating to their constituents and providing information than are small poorer districts (Table 12).

4. Norms for this instrument based upon financial support quartiles would be meaningless, since no significant differences were observed in the responses of the five populations used. Norms were constructed, instead, upon the total sample which combined the scores for all four financial support quartiles.

5. There was a difference between the scores of elementary pupils, secondary students, parents, patrons, and faculty on the majority of items within each cost quartile. This meant that each group did have different attitudes toward their schools and that each group contributes useful information about each item. The continued use of all five batteries contributes useful

information for a total assessment of a school district's educational program (Table 13).

6. The only category in which the respondents did not differ was "Community Relations." This category is responded to by parents, patrons, and faculty on eleven of the twelve items. It would seem that adults' attitudes in regards to "Community Relations" were similar.

7. The batteries were reliable from testing to testing, indicating that attitudes of elementary pupils, secondary students, parents, patrons, and faculty were generally consistent over a short period of time. The category "Essential Services Desired" exhibited the weakest reliability (Table 15). This was especially true for faculty, parents, and patrons. It seems that adults' attitudes vary more than do students. The estimated reliability for each battery was: (1) elementary pupils, .92; (2) secondary students, .95; (3) parents, .94; (4) patrons, .84; and (5) faculty, .94 (Table 17). These are respectable reliability coefficients for an instrument which measures attitudes. The analyses of item reliability indicate that future scores for 27 of the 229 items below R.50 must be interpreted with care. The error present in these items require some caution in interpretation. One of the reasons for low reliability coefficients for faculty can be attributed to the small sample. With only 33 respondents there is a wide variation

in the theoretical "true reliability" and the "observed reliability" of the faculty battery. The remaining four batteries had a larger sample upon which the reliability coefficient was derived, and therefore the "true reliability" is closer to the "observed reliability."

8. The norms established for the instrument were based on the total sample of 14 school districts in the State of Michigan. The total number of respondents was large, therefore the range of scores at a 95% confidence level were small. The largest variation around the sample score was plus or minus five percentage points (Table 18). These norms are useful for comparing a given district's scores with the norms of the sample population.

Implications

This study has several implications for school program assessment:

1. Attitudes of elementary pupils, secondary students, parents, patrons, and faculty are not related to financial support quartiles. Attitudes are dependent on factors other than size, effort, ability, and expenditure. This finding strengthens the curriculum assessment model used in this study, since attitudes give additional information concerning the school program not obtained from analyses of size, effort, ability, or expenditure.

2. Each battery measures attitudes from a different view-point. Elementary pupils, secondary students, parents, patrons, and faculty score differently for the majority of items, which indicates that no one segment of the community can be presumed to speak for another community group. This finding adds another important dimension to the curriculum assessment model used in this study, i.e. that all members of the school community have different attitudes toward the schools and each battery adds its segment of information to the total assessment model.

3. Item scores are not as reliable as total scores. The interpretation of individual items must be made with caution. An individual using this instrument can place considerable confidence in a total interpretation of its results, but specific items must be interpreted with care.

4. The norms for the What Do You Think About Your Schools are established on 3,057 cases. This is not a large sample for the development of norms, but the districts represent several important variables: (1) dize, (2) effort, (3) ability, (4) expenditure, (5) geographic distribution of the State of Michigan, (6) socio-economic distribution, and (7) population density. A user of the instrument can be fairly sure that all types of public school districts are included in the norming sample.

Recommendations

Further investigations are needed to improve the curriculum assessment model presented in this study and to improve the precision of attitude measurement for elementary pupils, secondary students, parents, patrons, and faculty.

1. It is recommended that the use of the What Do You Think About Your Schools be continued in the assessment of school programs. The findings of this study indicate that the instrument gives additional information about a school district that cannot be obtained in any other manner. The reliability coefficients for the five batteries are high enough to place confidence in the scores obtained and show the relative stability of attitudes over a short period of time.

2. It is recommended that further study be undertaken for the imrpovement of the norms developed. The criteria for selection of school districts should be size, socio-economic distribution, geographic dispersion, and type of population center. The present study seems to include these variables, but a study designed to control these specific variables might prove more useful than a random sample based on size, effort, ability, and expenditure.

3. It is recommended that this study be replicated with a national sample of school districts. The results

of a national study would increase the application of results to a much larger population.

4. It is recommended that a better method of selecting parents and patrons be established to provide a better representation of these groups. The method used in this study, contact by sixth grade pupils, leaves some questions about the true responses from the total population of parents and patrons.

5. It is recommended that further study of instrument reliability be done. This study should sample a larger number of respondents for each battery to decrease the amount of variation present within a small sample. This would give more precise limits for the scores obtained from each respondent group.

6. It is recommended that the category "Essential Services Desired" be reviewed. The scores obtained do not represent adequate reliability and show non-significant differences between batteries. The researcher feels that the possible responses to the items in the category "Essential Services Desired" do not sample the true attitudes from the various groups. Rather than "Very Essential," "Essential," "Not Essential," and "Waste of Time;" a better classification might be "Very Essential," "Essential," "Needed," and "Not Needed." This would tend to spread the scores over a greater range.

7. It is recommended that the possible responses to items "Amount of Work to Keep Up," "Amount of Homework," and "Money Needed for School" be revised to include two favorable responses instead of the present one to be consistent with the rest of the items. The present possible responses limit the choice of the respondents and increase computational difficulties.

8. It is recommended that further study be conducted to find the relationship between the What Do You Think About Your Schools and a measure of school quality, such as the Educational Characteristics Criterion. Are the two instruments measuring the same thing? If so, modifications would be necessary in the curriculum assessment model developed by Rudman.

9. It is recommended that further study be done transcribing the nominal data to interval data. This would permit a more sophisticated analyses of the differences between batteries and the financial support quartiles. The use of non-parametric statistics does not permit as sensitive an analyses of the data as a parametric technique. Much of the information is lost when combining scores into favorable and unfavorable responses.

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APPENDICES

APPENDIX A

WHAT DO YOU THINK ABOUT YOUR SCHOOLS

Elementary Pupils

Secondary Students

Parents

Patrons

Faculty

WHAT DO YOU THINK ABOUT YOUR SCHOOLS?

This questionnaire represents one of several methods being used to analyze your school situation. Faculty members, parents of school children, other adults, high school students, and grade school students are being asked to complete similar questionnaires designed to measure the reaction of the community to its schools.

YOUR ANSWERS WILL BE COMPLETELY ANONYMOUS. DO NOT WRITE YOUR NAME ANYWHERE ON THIS FORM.

Please check the statement that comes closest to answering each question. After completing this form, please return it to a proper collection point.

Thank you so much for taking the time to complete this questionnaire. We need to know how you feel about your schools so that they can be made even better than they are today.

1. School District _____

2. Check one:

Elementary Student	1. _____
Secondary Student	2. _____
Parent of Student Enrolled in Public School	3. _____
Patron (No Children Enrolled in Public School)	4. _____
Faculty Member	5. _____

1. How well do you like school?

Very well	1. _____
Quite well	2. _____
Very little	3. _____
Not at all	4. _____

2. Do you feel that you are "one of the group" in your school?

Yes	1. _____
Usually	2. _____
Sometimes	3. _____
No	4. _____

3. How well do you think that your teacher knows you?

Very well	1. _____
Somewhat	2. _____
Little	3. _____
Not at all	4. _____

4. Do you feel that your teacher is interested in you as a person?

Yes	1. _____
Somewhat	2. _____
Little	3. _____
Not at all	4. _____

5. Do you feel that your teacher is willing to help you when you have a problem?

Yes	1. _____
Sometimes	2. _____
Little	3. _____
No	4. _____

6. How proud are you of your school?

Very	1. _____
Some	2. _____
Little	3. _____
None	4. _____

7. Do you feel that your school is as good as some other schools you know about?

Very good	1. _____
Good	2. _____
Fair	3. _____
Poor	4. _____

8. How satisfied are you with your school?

Very satisfied	1. _____
Satisfied	2. _____
Dissatisfied	3. _____
Very dissatisfied	4. _____

9. How interested are you in your school?

Very interested	1. _____
Interested	2. _____
Not interested	3. _____
Not at all interested	4. _____

10. How much of what you are studying in school do you think will be valuable to you?

Practically everything	1. _____
Most	2. _____
Half	3. _____
Very little	4. _____

11. How much do you think you are learning from your studies?

A great deal	1. _____
Something	2. _____
A little	3. _____
Very little	4. _____

12. Is there a chance for you to attend as many of the school parties, plays, games, and clubs as you would like to?

Always	1. _____
Most of the time	2. _____
Once in a while	3. _____
Never	4. _____

13. How much work do you have to do to "keep up" in your school studies?

Too much	1. _____
About right	2. _____
Not very much	3. _____
None at all	4. _____

14. How much homework do you have?

None at all	1. _____
Little	2. _____
About right	3. _____
More than I can do	4. _____

15. Does your school offer as many plays, clubs and other after-school activities as you would like to see offered?

All that are needed	1. _____
Most that are needed	2. _____
Few that are needed	3. _____
None that are needed	4. _____

16. Does your school try to get you interested in plays, clubs, and other after-school activities?

A great effort is made	1. _____
An effort is made	2. _____
Little effort is made	3. _____
No effort is made	4. _____

17. Are you satisfied with the variety of subjects that are taught in school?

Very satisfied	1. _____
Satisfied	2. _____
Unsatisfied	3. _____
Very unsatisfied	4. _____

18. Are there subjects that you would like to take that are not offered in your school?

Many	1. _____
Some	2. _____
Few	3. _____
There are enough now	4. _____

19. If you have a school library, how helpful is it to you as you do your school work?

Very helpful	1. _____
Helpful	2. _____
Not very helpful	3. _____
No library in my school	4. _____

20. Do you need to spend much money in order to take part in the plays, clubs, or parties that your school may sponsor?

Too much money is needed	1. ____
About right	2. ____
I could pay more	3. ____
There are no charges	4. ____

21. How useful do you think are the subjects you are now taking in school?

Very useful	1. ____
Useful	2. ____
Not useful	3. ____
No value at all	4. ____

Check the activities and services that you feel your school must have if it is to be a good school for you:

		Must Have	Need	Do Not Need	Waste of Time
22.	Films, film strips, T.V., records, tape recorders	1. ____	2. ____	3. ____	4. ____
23.	Physical education	1. ____	2. ____	3. ____	4. ____
24.	Field trips	1. ____	2. ____	3. ____	4. ____
25.	Music	1. ____	2. ____	3. ____	4. ____
26.	Art	1. ____	2. ____	3. ____	4. ____
27.	Hot lunch	1. ____	2. ____	3. ____	4. ____
28.	Physical and dental exams	1. ____	2. ____	3. ____	4. ____
29.	Speech correction	1. ____	2. ____	3. ____	4. ____
30.	Mental health clinic	1. ____	2. ____	3. ____	4. ____
31.	Remedial reading	1. ____	2. ____	3. ____	4. ____
32.	Special education	1. ____	2. ____	3. ____	4. ____
33.	Social activities	1. ____	2. ____	3. ____	4. ____
34.	Summer school	1. ____	2. ____	3. ____	4. ____

35. Do you think that your school is overcrowded?

Very crowded	1. _____
Crowded	2. _____
Enough room	3. _____
Wasted space	4. _____

36. Does your school have as much playground and gymnasium equipment as you would like it to have?

All we need	1. _____
Enough	2. _____
Could use more	3. _____
Lacking	4. _____

37. How much interest do your parents show in your school work and related activities?

A great deal	1. _____
Some	2. _____
Very little	3. _____
None	4. _____

APPENDICES

APPENDIX A

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Please check the statement that comes closest to answering each question. After completing this form, please return it to a proper collection point.

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1. School District _____

2. Check one:

Elementary Student	1. _____
Secondary Student	2. _____
Parent of Student Enrolled in Public School	3. _____
Patron (No Children Enrolled in Public School)	4. _____
Faculty Member	5. _____

Elementary School
Questionnaire

1. How well do you like school?

Very well	1. _____
Quite well	2. _____
Very little	3. _____
Not at all	4. _____

2. Do you feel that you are "one of the group" in your school?

Yes	1. _____
Usually	2. _____
Sometimes	3. _____
No	4. _____

3. How well do you think that your teacher knows you?

Very well	1. _____
Somewhat	2. _____
Little	3. _____
Not at all	4. _____

4. Do you feel that your teacher is interested in you as a person?

Yes	1. _____
Somewhat	2. _____
Little	3. _____
Not at all	4. _____

5. Do you feel that your teacher is willing to help you when you have a problem?

Yes	1. _____
Sometimes	2. _____
Little	3. _____
No	4. _____

6. How proud are you of your school?

Very	1. _____
Some	2. _____
Little	3. _____
None	4. _____

7. Do you feel that your school is as good as some other schools you know about?

Very good	1. _____
Good	2. _____
Fair	3. _____
Poor	4. _____

8. How satisfied are you with your school?

Very satisfied	1. _____
Satisfied	2. _____
Dissatisfied	3. _____
Very dissatisfied	4. _____

9. How interested are you in your school?

Very interested	1. _____
Interested	2. _____
Not interested	3. _____
Not at all interested	4. _____

10. How much of what you are studying in school do you think will be valuable to you?

Practically everything	1. _____
Most	2. _____
Half	3. _____
Very little	4. _____

11. How much do you think you are learning from your studies?

A great deal	1. _____
Something	2. _____
A little	3. _____
Very little	4. _____

12. Is there a chance for you to attend as many of the school parties, plays, games, and clubs as you would like to?

Always	1. _____
Most of the time	2. _____
Once in a while	3. _____
Never	4. _____

13. How much work do you have to do to "keep up" in your school studies?

Too much	1. _____
About right	2. _____
Not very much	3. _____
None at all	4. _____

14. How much homework do you have?

None at all	1. _____
Little	2. _____
About right	3. _____
More than I can do	4. _____

15. Does your school offer as many plays, clubs and other after-school activities as you would like to see offered?

All that are needed	1. _____
Most that are needed	2. _____
Few that are needed	3. _____
None that are needed	4. _____

16. Does your school try to get you interested in plays, clubs, and other after-school activities?

A great effort is made	1. _____
An effort is made	2. _____
Little effort is made	3. _____
No effort is made	4. _____

17. Are you satisfied with the variety of subjects that are taught in school?

Very satisfied	1. _____
Satisfied	2. _____
Unsatisfied	3. _____
Very unsatisfied	4. _____

18. Are there subjects that you would like to take that are not offered in your school?

Many	1. _____
Some	2. _____
Few	3. _____
There are enough now	4. _____

19. If you have a school library, how helpful is it to you as you do your school work?

Very helpful	1. _____
Helpful	2. _____
Not very helpful	3. _____
No library in my school	4. _____

20. Do you need to spend much money in order to take part in the plays, clubs, or parties that your school may sponsor?

Too much money is needed	1. ____
About right	2. ____
I could pay more	3. ____
There are no charges	4. ____

21. How useful do you think are the subjects you are now taking in school?

Very useful	1. ____
Useful	2. ____
Not useful	3. ____
No value at all	4. ____

Check the activities and services that you feel your school must have if it is to be a good school for you:

		Must Have	Need	Do Not Need	Waste of Time
22.	Films, film strips, T.V., records, tape recorders	1. ____	2. ____	3. ____	4. ____
23.	Physical education	1. ____	2. ____	3. ____	4. ____
24.	Field trips	1. ____	2. ____	3. ____	4. ____
25.	Music	1. ____	2. ____	3. ____	4. ____
26.	Art	1. ____	2. ____	3. ____	4. ____
27.	Hot lunch	1. ____	2. ____	3. ____	4. ____
28.	Physical and dental exams	1. ____	2. ____	3. ____	4. ____
29.	Speech correction	1. ____	2. ____	3. ____	4. ____
30.	Mental health clinic	1. ____	2. ____	3. ____	4. ____
31.	Remedial reading	1. ____	2. ____	3. ____	4. ____
32.	Special education	1. ____	2. ____	3. ____	4. ____
33.	Social activities	1. ____	2. ____	3. ____	4. ____
34.	Summer school	1. ____	2. ____	3. ____	4. ____

35. Do you think that your school is overcrowded?

Very crowded	1. _____
Crowded	2. _____
Enough room	3. _____
Wasted space	4. _____

36. Does your school have as much playground and gymnasium equipment as you would like it to have?

All we need	1. _____
Enough	2. _____
Could use more	3. _____
Lacking	4. _____

37. How much interest do your parents show in your school work and related activities?

A great deal	1. _____
Some	2. _____
Very little	3. _____
None	4. _____

WHAT DO YOU THINK ABOUT YOUR SCHOOLS?

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1. School District _____

2. Check one:

Elementary Student 1. _____

Secondary Student 2. _____

Parent of Student Enrolled in Public School 3. _____

Patron (No Children Enrolled in Public School) 4. _____

Faculty Member 5. _____

1. How well do you like school?

Very well	1. _____
Quite well	2. _____
Very little	3. _____
Not at all	4. _____

2. Do you feel that you are "one of the group" in your school?

Yes	1. _____
Usually	2. _____
Sometimes	3. _____
No	4. _____

3. Generally, how well do you think your teachers know you?

Very well	1. _____
Somewhat	2. _____
Little	3. _____
Not at all	4. _____

4. Generally, do you feel that your teachers are interested in you as a person?

Yes	1. _____
Somewhat	2. _____
Little	3. _____
Not at all	4. _____

5. Generally, do you feel that your teachers are willing to help you when you have a problem?

Yes	1. _____
Sometimes	2. _____
Little	3. _____
No	4. _____

6. How proud are you of your school?

Very	1. _____
Some	2. _____
Little	3. _____
None	4. _____

Do you feel that your school compares favorably with other schools that you know about in:

		Very Favorably	Favorably	Slightly Favorably	Unfavorably
7.	Curriculum	1. _____	2. _____	3. _____	4. _____
8.	Teaching staff	1. _____	2. _____	3. _____	4. _____
9.	Building	1. _____	2. _____	3. _____	4. _____
10.	Equipment	1. _____	2. _____	3. _____	4. _____

11. How satisfied are you with your school?

Very satisfied	1. _____
Satisfied	2. _____
Dissatisfied	3. _____
Very dissatisfied	4. _____

12. How interested are you in the future of your school?

Very interested	1. _____
Interested	2. _____
Disinterested	3. _____
Very disinterested	4. _____

13. How much of what you are studying in school do you think will be valuable to you?

Practically everything	1. _____
Most	2. _____
Half	3. _____
Very little	4. _____

14. How much do you think you are learning from your studies?

A great deal	1. _____
Something	2. _____
A little	3. _____
Very little	4. _____

15. Is there a chance for you to attend as many of the school parties, plays, games and clubs as you would like to?

Always	1. _____
Most of the time	2. _____
Once in a while	3. _____
Never	4. _____

16. How much work do you have to do to "keep up" in your school studies?

Too much	1. _____
About right	2. _____
Not very much	3. _____
None at all	4. _____

17. How much homework do you have?

None at all	1. _____
Little	2. _____
About right	3. _____
More than I can do	4. _____

18. Does your school offer as many extra-curricular activities as you would like to see offered?

All that are needed	1. _____
Most that are needed	2. _____
Few that are needed	3. _____
None that are needed	4. _____

19. Does the school create enough interest in extra-curricular activities?

A great effort is made	1. _____
An effort is made	2. _____
Little effort is made	3. _____
No effort is made	4. _____

20. Does your school offer a wide enough choice of courses for you to take?

Wide choice	1. _____
Enough choice	2. _____
Little choice	3. _____
No choice	4. _____

21. Are there subjects that you would like to take that are not offered by your school?

Many	1. _____
Some	2. _____
Few	3. _____
They now have enough	4. _____

22. How much help do you get from the librarian when you go to the school library?

All I need	1. _____
Most of the help I need	2. _____
Some of the help I need	3. _____
I never use the school library	4. _____

23. How do you feel about the money you have to spend for extra-curricular activities such as ball games, proms, yearbooks, and clubs?

Too much money	1. _____
About right	2. _____
Very little	3. _____
We don't have to pay	4. _____

24. How much of what you are studying do you think will be of use to you?

Most	1. _____
About half	2. _____
Less than half	3. _____
Very little	4. _____

Check the activities and services that you feel are <u>essential</u> to a good school curriculum?

	Very Essential	Essential	Not Essential	Waste of Time
25. Audio-visual aids	1. _____	2. _____	3. ____	4. ____
26. Physical education	1. _____	2. _____	3. ____	4. ____
27. Field trips	1. _____	2. _____	3. ____	4. ____
28. Music	1. _____	2. _____	3. ____	4. ____

		Very Essential	Essential	Not Essential	Waste of Time
29.	Art	1. _____	2. _____	3. _____	4. _____
30.	Hot lunch	1. _____	2. _____	3. _____	4. _____
31.	Physical and dental exams	1. _____	2. _____	3. _____	4. _____
32.	Job placement	1. _____	2. _____	3. _____	4. _____
33.	Guidance	1. _____	2. _____	3. _____	4. _____
34.	Speech correction	1. _____	2. _____	3. _____	4. _____
35.	Mental health services	1. _____	2. _____	3. _____	4. _____
36.	Remedial reading	1. _____	2. _____	3. _____	4. _____
37.	Special education	1. _____	2. _____	3. _____	4. _____
38.	Adult education	1. _____	2. _____	3. _____	4. _____
39.	Agriculture programs	1. _____	2. _____	3. _____	4. _____
40.	Social activities	1. _____	2. _____	3. _____	4. _____
41.	Summer school	1. _____	2. _____	3. _____	4. _____
42.	Driver training	1. _____	2. _____	3. _____	4. _____

43. Is your school overcrowded?

Very crowded	1. _____
Crowded	2. _____
Enough room	3. _____
Excess space	4. _____

44. Does your school have all of the playground, laboratory, and classroom equipment that you feel it ought to have?

All we need	1. _____
Adequate	2. _____
Could use more	3. _____
Lacking	4. _____

45. How much interest do your parents show in your school work and related activities?

A great deal	1. _____
Somewhat	2. _____
Very little	3. _____
None	4. _____

WHAT DO YOU THINK ABOUT YOUR SCHOOLS?

This questionnaire represents one of several methods being used to analyze your school situation. Faculty members, parents of school children, other adults, high school students, and grade school students are being asked to complete similar questionnaires designed to measure the reaction of the community to its schools.

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1. School District _____

2. Check one:

Elementary Student 1. _____

Secondary Student 2. _____

Parent of Student Enrolled in Public School 3. _____

Patron (No Children Enrolled in Public School) 4. _____

Faculty Member 5. _____

NOTE: Please indicate the grade your child or children are attending.

1. Elementary (Kindergarten to 6th grade) _____

2. Secondary (7th to 12th grade) _____

3. Both Elementary and Secondary _____

4. How well do you think your children like school?

Very well	1. _____
Quite well	2. _____
Very little	3. _____
Not at all	4. _____

5. Do you feel that your child is accepted by his classmates as "one of the group"?

Yes	1. _____
Usually	2. _____
Sometimes	3. _____
No	4. _____

6. Do you feel that your child's teachers really know your child?

Very well	1. _____
Somewhat	2. _____
Little	3. _____
Not at all	4. _____

7. To what extent do teachers show a personal interest in your child?

Much	1. _____
Somewhat	2. _____
Little	3. _____
Not at all	4. _____

8. To what extent are teachers willing to help your child when he has a problem?

Much	1. _____
Somewhat	2. _____
Little	3. _____
Not at all	4. _____

9. How much pride do you have in your district's system of schools?

Very much	1. _____
Some	2. _____
Little	3. _____
None	4. _____

10. Do you feel that the schools in your district compare favorably with other schools that you know about?

Very favorably	1. _____
Favorably	2. _____
Slightly favorably	3. _____
Unfavorably	4. _____

11. In general how satisfied are you with the school your child attends?

Very satisfied	1. _____
Satisfied	2. _____
Dissatisfied	3. _____
Very dissatisfied	4. _____

12. How interested are you in the future of the schools in your district?

Very interested	1. _____
Interested	2. _____
Disinterested	3. _____
Very disinterested	4. _____

13. How much of what your child is learning in school is of value to him?

Practically everything	1. _____
Most	2. _____
Half	3. _____
Very little	4. _____

14. How much is your child getting from his or her studies?

A great deal	1. _____
Something	2. _____
A little	3. _____
Very little	4. _____

15. Is there an opportunity for your child to attend as many of the school parties, plays, games and clubs as he or she would like to?

Always	1. _____
Most of the time	2. _____
Occasionally	3. _____
Never	4. _____

16. How do you feel about the amount of work assigned to your children in order for them to "keep up" with their classwork?

Too much	1. _____
About right	2. _____
Not very much work	3. _____
Too little	4. _____

17. How much homework does your child get assigned to him by the school?

None at all	1. _____
Little	2. _____
Appropriate for class work	3. _____
A great deal	4. _____

18. Does the school offer as many plays, games, proms, and other activities as you would like to see offered?

All that are necessary	1. _____
Most that are necessary	2. _____
Few that are necessary	3. _____
None that are necessary	4. _____

19. Does the school do enough to get your child interested in after-school activities?

All that is necessary	1. _____
Most that is necessary	2. _____
Little that is necessary	3. _____
None that is necessary	4. _____

20. Does the school offer your child a wide enough variety of courses for him to take?

Wide variety	1. _____
Enough variety	2. _____
Little variety	3. _____
No variety	4. _____

21. Are there courses that you would like your child to take that are not now being offered to them?

Many	1. _____
Some	2. _____
Few	3. _____
They have enough now	4. _____

22. How much help does your child get from the librarian when he or she goes to the school library?

All they need	1. _____
Most of the help they need	2. _____
Some of the help they need	3. _____
They have no librarian	4. _____

23. How do you feel about the money your children spend for such things as proms, yearbooks, textbook fees, ball games, and laboratory fees?

Too much money	1. _____
About right	2. _____
Children could pay more	3. _____
They pay no money	4. _____

24. How much of what your child is studying in school will be of use to him after he leaves school?

Most	1. _____
About half	2. _____
Less than half	3. _____
Very little	4. _____

25. Do you feel that the school your child attends is overcrowded?

Very crowded	1. _____
Crowded	2. _____
Enough room	3. _____
Excess space	4. _____

26. Does your child's school have all of the playground, classroom, and laboratory equipment that it needs to do an adequate job?

All they need	1. _____
Adequate	2. _____
Could use more	3. _____
Lacking	4. _____

27. Do you feel that there is a good relationship between the schools and the community?

Very good	1. _____
Good	2. _____
Could be improved	3. _____
Poor	4. _____

Check the activities and services that you feel are <u>essential</u> to a good school curriculum:

		Very Essential	Essential	Not Essential	Waste of Time
28.	Audio-visual aids	1. _____	2. _____	3. _____	4. _____
29.	Physical education	1. _____	2. _____	3. _____	4. _____
30.	Field trips	1. _____	2. _____	3. _____	4. _____
31.	Music	1. _____	2. _____	3. _____	4. _____
32.	Art	1. _____	2. _____	3. _____	4. _____
33.	Hot lunch program	1. _____	2. _____	3. _____	4. _____
34.	Physical and dental exams	1. _____	2. _____	3. _____	4. _____
35.	Job placement	1. _____	2. _____	3. _____	4. _____
36.	Guidance	1. _____	2. _____	3. _____	4. _____
37.	Speech correction	1. _____	2. _____	3. _____	4. _____
38.	Mental health services	1. _____	2. _____	3. _____	4. _____

		Very Essential	Essential	Not Essential	Waste of Time
39.	Remedial reading	1. _____	2. _____	3. _____	4. _____
40.	Adult education	1. _____	2. _____	3. _____	4. _____
41.	Special education	1. _____	2. _____	3. _____	4. _____
42.	Agriculture programs	1. _____	2. _____	3. _____	4. _____
43.	Social activities	1. _____	2. _____	3. _____	4. _____
44.	Summer school	1. _____	2. _____	3. _____	4. _____
45.	Driver training	1. _____	2. _____	3. _____	4. _____

46. What is your estimate of the social status of teachers in your community?

Very good	1. _____
Good	2. _____
Could be improved	3. _____
Very low status	4. _____

47. Do you feel that the schools inform the community adequately about the school and the school program?

Excellent	1. _____
Good	2. _____
Fair	3. _____
Poor	4. _____

48. Do you feel that the school board should publish the minutes of their meetings in the local papers?

Always	1. _____
Sometimes	2. _____
Occasionally	3. _____
Never	4. _____

49. To what degree do you feel parent-teacher relationships are satisfactory?

Very good	1. _____
Good	2. _____
Poor	3. _____
Very poor	4. _____

50. To what degree do you feel parent-teacher conferences are desirable?

Very desirable	1. _____
Desirable	2. _____
Some help	3. _____
Waste of time	4. _____

51. To what degree do you feel PTA's are effective?

Very effective	1. _____
Effective	2. _____
Slightly effective	3. _____
Waste of time	4. _____

52. Do you feel that the school tax rate compares favorably with the level of services rendered by the schools?

Very favorable	1. _____
Favorable	2. _____
Unfavorable	3. _____
Way out of line	4. _____

53. Would you be willing to pay more taxes for an improved educational program in your community?

A good deal more	1. _____
Slightly more	2. _____
No increase	3. _____
Want a cut	4. _____

54. Do you feel that there is adequate communication between parents, administration, and school board?

Excellent	1. _____
Good	2. _____
Fair	3. _____
Poor	4. _____

55. Do you know your child's teacher as well as you would like to?

Very well	1. _____
Well	2. _____
Little	3. _____
Not at all	4. _____

56. Do you feel that you show much interest in the school work and related activities of your children?

A great deal	1. _____
Somewhat	2. _____
Very little	3. _____
None	4. _____

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2. Check one:

   Elementary Student 1. _____

   Secondary Student 2. _____

   Parent of Student Enrolled in Public School 3. _____

   Patron (No Children Enrolled in Public School) 4. _____

   Faculty Member 5. _____

1. How much pride do you have in your district's system of schools?

Very much	1. _____
Some	2. _____
Little	3. _____
None	4. _____

2. Do you feel that the schools in your district compare favorably with other schools that you know about?

Very favorably	1. _____
Favorably	2. _____
Slightly favorably	3. _____
Unfavorably	4. _____

3. In general, how satisfied are you with the schools in your district?

Very satisfied	1. _____
Satisfied	2. _____
Dissatisfied	3. _____
Very dissatisfied	4. _____

4. How interested are you in the future of the public schools in your district?

Very interested	1. _____
Interested	2. _____
Disinterested	3. _____
Very disinterested	4. _____

5. Should children pay for such school activities as ball games, clubs, proms, laboratory fees and textbooks?

All of the cost	1. _____
Some of the cost	2. _____
Token payment	3. _____
No charge	4. _____

6. As far as you can tell from your contact with the students that have been educated in your school district, how much of what these students learn in school is of use to them after they leave school?

Most	1. _____
About half	2. _____
Less than half	3. _____
Very little	4. _____

Check the activities and services that you feel are <u>essential</u> to a good school curriculum:

		Very Essential	Essential	Not Essential	Waste of Time
7.	Audio-visual aids	1. _____	2. _____	3. _____	4. _____
8.	Physical education	1. _____	2. _____	3. _____	4. _____
9.	Field trips	1. _____	2. _____	3. _____	4. _____
10.	Music	1. _____	2. _____	3. _____	4. _____
11.	Art	1. _____	2. _____	3. _____	4. _____
12.	Hot lunch programs	1. _____	2. _____	3. _____	4. _____
13.	Physical and dental exams	1. _____	2. _____	3. _____	4. _____
14.	Job placement	1. _____	2. _____	3. _____	4. _____
15.	Guidance	1. _____	2. _____	3. _____	4. _____
16.	Speech correction	1. _____	2. _____	3. _____	4. _____
17.	Mental health clinic	1. _____	2. _____	3. _____	4. _____
18.	Remedial reading	1. _____	2. _____	3. _____	4. _____
19.	Special education	1. _____	2. _____	3. _____	4. _____
20.	Adult education	1. _____	2. _____	3. _____	4. _____
21.	Agriculture programs	1. _____	2. _____	3. _____	4. _____
22.	Social activities	1. _____	2. _____	3. _____	4. _____
23.	Summer school	1. _____	2. _____	3. _____	4. _____
24.	Driver training	1. _____	2. _____	3. _____	4. _____

25. Do you feel that there is a good relationship between the schools and the community?

Very good	1. _____
Good	2. _____
Could be improved	3. _____
Poor	4. _____

26. What is your estimate of the social status of teachers in your community?

Very good	1. _____
Good	2. _____
Could be improved	3. _____
Very low	4. _____

27. Do you feel that the schools inform the community adequately about the school and the school program?

Excellent	1. _____
Good	2. _____
Fair	3. _____
Poor	4. _____

28. Do you feel that the school board should publish the minutes of their meetings in the local papers?

Always	1. _____
Sometimes	2. _____
Occasionally	3. _____
Never	4. _____

29. Do you feel that the school tax rate compares favorably with the level of services rendered by the school?

Very favorably	1. _____
Favorably	2. _____
Unfavorably	3. _____
Way out of line	4. _____

30. Would you be willing to pay more taxes for improved educational programs in your community?

A good deal more	1. _____
Slightly more	2. _____
No increase	3. _____
Want a cut	4. _____

31. Do you feel that there is adequate communication between the community, the school administration, and the school board?

Excellent	1. _____
Good	2. _____
Fair	3. _____
Poor	4. _____

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1. School District _____

2. Check one:

Elementary Student	1. _____
Secondary Student	2. _____
Parent of Student Enrolled in Public School	3. _____
Patron (No Children Enrolled in Public School)	4. _____
Faculty Member	5. _____

1. How well do you think that your students like school?

Very well	1. _____
Quite well	2. _____
Very little	3. _____
Not at all	4. _____

2. Do you feel that, in general, the students in your class accept each other as "one of the group"?

Yes	1. _____
Usually	2. _____
Sometimes	3. _____
No	4. _____

3. In general, how well do you think you know your students?

Very well	1. _____
Somewhat	2. _____
Little	3. _____
Not at all	4. _____

4. In general, to what extent do you show a personal interest in each of your students?

Much	1. _____
Somewhat	2. _____
Little	3. _____
Not at all	4. _____

5. In general, to what extent are you willing to help students when they have problems?

Much	1. _____
Somewhat	2. _____
Little	3. _____
Not at all	4. _____

6. How much pride do you have in your school system?

Very much	1. _____
Some	2. _____
Little	3. _____
None	4. _____

Do you feel that the elementary schools in your district compare favorably with other schools that you know about?

		Very Favorably	Favorably	Slightly Favorably	Unfavorably
7.	Curriculum	1. ____	2. ____	3. ____	4. ____
8.	Teaching staff	1. ____	2. ____	3. ____	4. ____
9.	Building	1. ____	2. ____	3. ____	4. ____
10.	Equipment	1. ____	2. ____	3. ____	4. ____

Do you feel that the secondary schools in your district compare favorably with other schools that you know about?

		Very Favorably	Favorably	Slightly Favorably	Unfavorably
11.	Curriculum	1. ____	2. ____	3. ____	4. ____
12.	Teaching staff	1. ____	2. ____	3. ____	4. ____
13.	Building	1. ____	2. ____	3. ____	4. ____
14.	Equipment	1. ____	2. ____	3. ____	4. ____

15. In general, how satisfied are you with the schools in your district?

Very satisfied	1. ____
Satisfied	2. ____
Dissatisfied	3. ____
Very dissatisfied	4. ____

16. How interested are you in the future of the schools in your district?

Very interested	1. ____
Interested	2. ____
Disinterested	3. ____
Very disinterested	4. ____

17. How much of what your students are studying in school is of value to them?

Practically everything	1. _____
Most	2. _____
Half	3. _____
Very little	4. _____

18. How much do you think your students are getting from their studies?

A great deal	1. _____
Something	2. _____
A little	3. _____
Very little	4. _____

19. Is the opportunity made easily available for all students to attend as many of the school parties, plays, games and clubs as they would like to?

Always	1. _____
Most of the time	2. _____
Occasionally	3. _____
Never	4. _____

20. How do you feel about the amount of work assigned to your students in order for them to "keep up" with their class work?

Too much work	1. _____
About right	2. _____
Not very much work	3. _____
Too little	4. _____

21. How much homework do you assign to your students?

None at all	1. _____
Little	2. _____
Appropriate for class work	3. _____
A great deal	4. _____

22. Does the school offer as many extra-curricular activities as you would like to see offered?

All that are necessary	1. _____
Most that are necessary	2. _____
Few that are necessary	3. _____
None that are necessary	4. _____

23. Does the school create enough interest in students to stimulate them to partake in extra-curricular activities?

All that is necessary	1. _____
Most that is necessary	2. _____
Little that is necessary	3. _____
None that is necessary	4. _____

24. Does your school offer a great enough variety in the courses it offers its students?

Wide variety	1. _____
Enough variety	2. _____
Little variety	3. _____
No variety	4. _____

25. Are there courses which should be offered your students that are not now being offered to them?

Many	1. _____
Some	2. _____
Few	3. _____
They now have enough	4. _____

26. How much help do your students get from the librarian when they go to the school library?

All they need	1. _____
Most of the help they need	2. _____
Some of the help they need	3. _____
We have no library	4. _____

27. How do you feel about the money children have to spend for extra-curricular activities and fees that are required for books, gym, laboratories, and the like?

Too much money	1. _____
About right	2. _____
Student's could pay more	3. _____
We don't levy these charges	4. _____

28. How much of what your students are studying will be of use to them after they leave school?

Most	1. _____
About half	2. _____
Less than half	3. _____
Very little	4. _____

Check the activities and services that you feel are <u>essential</u> to a good school curriculum:

	Very Essential	Essential	Not Essential	Waste of Time
29. Audio-visual aids	1. _____	2. _____	3. _____	4. _____
30. Physical education	1. _____	2. _____	3. _____	4. _____
31. Field trips	1. _____	2. _____	3. _____	4. _____
32. Music	1. _____	2. _____	3. _____	4. _____
33. Art	1. _____	2. _____	3. _____	4. _____
34. Hot lunch program	1. _____	2. _____	3. _____	4. _____
35. Physical and dental exams	1. _____	2. _____	3. _____	4. _____
36. Job placement	1. _____	2. _____	3. _____	4. _____
37. Guidance	1. _____	2. _____	3. _____	4. _____
38. Speech correction	1. _____	2. _____	3. _____	4. _____
39. Mental health services	1. _____	2. _____	3. _____	4. _____
40. Remedial reading	1. _____	2. _____	3. _____	4. _____
41. Special education	1. _____	2. _____	3. _____	4. _____

		Very Essential	Essential	Not Essential	Waste of Time
42.	Adult education	1. ____	2. ____	3. ____	4. ____
43.	Agriculture programs	1. ____	2. ____	3. ____	4. ____
44.	Social activities	1. ____	2. ____	3. ____	4. ____
45.	Driver training	1. ____	2. ____	3. ____	4. ____
46.	Summer school	1. ____	2. ____	3. ____	4. ____

47. Do you feel that the schools in your district are overcrowded?

Very crowded	1. ____
Crowded	2. ____
Enough room	3. ____
Excess space	4. ____

48. Does your school have all of the playground, classroom, laboratory equipment it needs to enable you to do your best work?

All we need	1. ____
Adequate	2. ____
Could use more	3. ____
Lacking	4. ____

49. Do you feel that you are getting enough supervisory assistance?

Very much	1. ____
Adequate	2. ____
Little	3. ____
None	4. ____

50. Do you feel that there is a good relationship between the schools and the community?

Very good	1. ____
Good	2. ____
Could be improved	3. ____
Poor	4. ____

51. What is your estimate of the social status of teachers in your community?

Very good	1. _____
Good	2. _____
Could be improved	3. _____
Very low status	4. _____

52. Do you feel that the schools inform the community adequately about the school and the school program?

Excellent	1. _____
Good	2. _____
Fair	3. _____
Poor	4. _____

53. Do you feel that the school board should publish the minutes of their meetings in the local papers?

Always	1. _____
Sometimes	2. _____
Occasionally	3. _____
Never	4. _____

54. To what degree do you feel parent-teacher relationships are satisfactory?

Very good	1. _____
Good	2. _____
Poor	3. _____
Very poor	4. _____

55. To what degree do you feel parent-teacher conferences are desirable?

Very desirable	1. _____
Desirable	2. _____
Some help	3. _____
Waste of time	4. _____

56. To what degree do you feel PTA's are effective?

Very effective	1. _____
Effective	2. _____
Slightly effective	3. _____
Waste of time	4. _____

57. Do you feel that the school tax rate compares favorably with the level of services rendered?

Very favorably	1. _____
Favorably	2. _____
Unfavorably	3. _____
Way out of line	4. _____

58. Do you know your students' parents as well as you would like to know them?

Very well	1. _____
Well	2. _____
Little	3. _____
Not at all	4. _____

59. Do you feel that there is adequate communication between parents, administration, and school board?

Excellent	1. _____
Good	2. _____
Fair	3. _____
Poor	4. _____

60. Do you feel parents show much interest in the school work and related activities of their children?

A great deal	1. _____
Somewhat	2. _____
Very little	3. _____
None	4. _____

APPENDIX B

Elementary Pupils Results by Quartile with Number of Respondents, Total Percentage of Favorable Response, "X^2", Degrees of Freedom, and Significance at $P > .05$

APPENDIX B.--Summary appendix for comparison of elementary pupils by quartile.[1]

Item	Q_4	Q_3	Q_2	Q_1	X^2	d.f.	P > .05
Satisfaction with Schools							
Like School	90.4	85.7	88.7	82.0	8.499	3	+
Student Feels Part of Group	72.2	74.1	72.5	77.0	2.209	3	-
Teacher Knows Child	92.1	93.8	93.8	82.5	25.714	3	+
Teacher Gives Help	94.5	97.3	96.0	91.6	8.244	3	+
Value of Studies	87.3	81.3	92.8	83.1	15.569	3	+*
Proud of School	92.9	87.4	85.1	89.9	3.360	3	-
Teacher Interest in Child	83.5	87.5	85.8	78.7	7.776	3	-
Schools Compare Favorably	84.3	67.6	66.7	74.4	15.528	3	+
Satisfaction with Schools	89.9	84.8	87.3	86.9	1.344	3	-
Interest in Schools' Future	94.5	84.8	87.3	92.1	10.148	3	+
School Program							
Effectiveness of Studies	96.1	93.8	96.7	92.1	7.198	3	-
Part in Extra-Curricular Activities	65.9	63.1	66.7	63.9	0.744	3	-
Amount of Work to Keep Up	59.7	64.3	66.3	60.3	3.049	3	-
Amount of Homework	59.8	51.4	42.4	45.8	11.744	3	+
Enough Extra-Curricular Activities	46.8	51.4	56.9	57.4	5.272	3	-
School Creates Interest in Extra-Curricular Activities	52.8	56.4	63.8	60.4	5.033	3	-
Variety of Subjects	86.5	93.8	88.8	81.4	13.875	3	+
Subject Wanted Not Taught	50.4	48.2	48.9	49.9	0.171	3	-

APPENDIX B.--Continued

Item	Q_4	Q_3	Q_2	Q_1	X^2	d.f.	P > .05
Help from Librarian	81.1	68.5	66.3	69.4	9.433	3	+
Money Needed for School	56.7	52.8	65.0	70.8	16.187	3	+*
Usefulness of Subjects	98.4	95.5	97.5	95.4	3.805	3	-
Essential Services Desired							
Audio-Visual	92.1	83.5	83.8	91.4	12.681	3	+
Physical Education	94.4	86.7	89.6	89.8	4.141	3	-
Field Trips	96.1	86.1	82.0	87.5	15.139	3	+
Music	71.4	58.0	69.4	66.9	5.886	3	-
Art	87.0	88.0	77.4	75.9	12.587	3	+
Hot Lunch	54.7*	84.4	83.4	98.7	75.226	3	+*
Physical and Dental Examination	56.9*	75.5	20.0	70.7	11.133	3	+*
Speech Correction	80.8	80.2	80.9	80.8	0.028	3	-
Mental Health Clinic	65.3	69.7	71.4	76.3	6.398	3	-
Remedial Reading	78.1	79.3	84.2	83.4	3.193	3	-
Special Education	76.0	79.6	77.5	78.3	0.500	3	-
Social Activities	88.0	86.4	86.7	91.7	5.097	3	-
Summer School	46.8	52.8	59.6	59.6	7.821	3	+*
School Organization and Size							
School Overcrowded	32.3	28.4	24.4	29.3	3.202	3	-

APPENDIX B.--Continued

Item	Q_4	Q_3	Q_2	Q_1	X^2	d.f.	P > .05
School Plant							
Adequate Equipment and Facilities	58.1	39.5	39.1	25.7	44.441	3	+
Community Relations							
Interest of Parents in School Activities	96.0	92.7	95.6	94.5	1.761	3	-

[1]The number of respondents are: (1) Q_4--125, (2) Q_3--112, (3) Q_2--275, and (4) Q_1--366.

The symbol "+" indicates significance, the symbol "+*" indicates significance, but with low support districts scoring higher than high support districts, and the symbol "_" indicates non-significance at P > .05.

APPENDIX C

Secondary Students Results by Quartile with Number of Respondents, Total Percentage of Favorable Response, "X^2", Degrees of Freedom, and Significance at P > .05

APPENDIX C.--Summary appendix for comparison of secondary students by quartile.[1]

Item	Q_4	Q_3	Q_2	Q_1	X^2	d.f.	P > .05
Satisfaction with Schools							
Like School	61.1	73.2	76.7	75.5	11.210	3	+*
Student Feels Part of Group	59.1	55.0	55.4	71.2	21.246	3	+*
Teacher Knows Child	67.5	63.1	76.7	84.7	30.826	3	+*
Teacher Gives Help	89.4	88.4	91.2	93.4	3.898	3	-
Value of Studies	51.3	55.4	70.2	66.6	17.045	3	+*
Proud of School	76.3	73.2	85.1	88.4	20.281	3	+*
Teacher Interest in Child	61.9	61.3	72.5	79.7	23.461	3	+*
Schools Compare Favorably							
Curriculum	84.8	64.9	61.7	65.6	19.915	3	+
Teaching Staff	77.5	68.5	76.7	83.0	11.757	3	+*
Building	76.8	65.8	68.0	69.6	3.830	3	-
Equipment	70.5	50.9	56.8	58.8	9.694	3	+
Satisfaction with Schools	70.2	59.8	74.1	79.7	19.146	3	+*
Interest in Schools' Future	60.2	75.0	76.7	81.6	22.327	3	+*
School Program							
Effectiveness of Studies	79.0	76.8	84.8	85.8	7.057	3	-
Part in Extra-Curricular Activities	71.9	64.2	68.7	75.3	6.483	3	-
Amount of Work to Keep Up	47.4	48.2	54.2	58.3	3.720	3	-
Amount of Homework	57.9	48.6	54.2	58.3	3.720	3	-
Enough Extra-Curricular Activities	87.7	72.2	72.8	64.4	24.030	3	+
School Creates Interest in Extra-Curricular Activities	69.3	56.9	74.8	66.8	12.160	3	+*

APPENDIX C.--Continued

Item	Q_4	Q_3	Q_2	Q_1	X^2	d.f.	P > .05
Variety of Subjects	78.1	62.4	50.0	50.7	32.394	3	+
Subject Wanted Not Taught	50.4	71.4	67.2	69.7	16.170	3	+
Help from Librarian	47.8	48.7	60.9	60.9	10.905	3	+*
Money Needed for School	90.2	92.0	94.7	89.7	5.252	3	-
Usefulness of Subjects	79.5	82.1	85.2	86.1	3.417	3	-
Essential Services Desired							
Audio-Visual	83.6	92.8	86.2	84.0	5.919	3	-
Physical Education	83.2	77.5	90.8	92.1	22.762	3	+*
Field Trips	80.5	87.5	77.0	77.0	6.506	3	-
Music	71.7	82.0	69.9	76.1	7.179	3	+
Art	81.4	84.6	70.5	73.7	10.948	3	+
Hot Lunch	78.8	83.0	71.8	86.5	21.914	3	+*
Physical and Dental Examination	44.6	54.1	54.1	56.8	5.118	3	-
Job Placement	73.2	83.0	80.8	79.2	3.833	3	-
Guidance	91.2	92.4	98.5	94.4	11.584	3	+*
Speech Correction	84.1	90.1	91.9	90.4	5.544	3	-
Mental Health Clinic	72.6	80.9	75.8	78.5	2.911	3	-
Remedial Reading	74.1	90.9	79.1	84.5	12.850	3	+
Special Education	85.0	92.9	87.3	90.5	5.193	3	-
Adult Education	75.0	87.3	73.7	77.7	8.580	3	+
Agriculture Program	43.2	63.1	59.8	88.5	115.116	3	+*
Social Activities	82.1	90.2	90.8	91.7	9.153	3	+*
Summer School	94.7	82.1	78.2	72.7	25.985	3	+
Driver Training	93.8	96.4	94.2	98.9	12.998	3	+*

APPENDIX C.--Continued

Item	Q_4	Q_3	Q_2	Q_1	X^2	d.f.	P > .05
School Organization and Size							
School Overcrowded	78.1	69.6	68.9	40.0	87.800	3	+
School Plant							
Adequate Equipment and Facilities	39.5	17.0	25.0	25.3	15.728	3	+
Community Relations							
Interest of Parents in School Activities	87.4	87.5	78.9	84.4	6.680	3	-

[1]The number of respondents are: (1) Q_4--113, (2) Q_3--112, (3) Q_2--262, and (4) Q_1--380.

The symbol "+" indicates significance, the symbol "+*" indicates significance, but with low support districts scoring higher than high support districts, and the symbol "-" indicates non-significance at P > .05.

APPENDIX D

Parents Results by Quartile with Number of Respondents, Total Percentage of Favorable Response, "X^2", Degrees of Freedom, and Significance at $P > .05$

APPENDIX D.--Summary appendix for comparison of parents by Quartile.[1]

Item	Q_4	Q_3	Q_2	Q_1	X^2	d.f.	P > .05
Satisfaction with Schools							
Like School	97.8	92.3	94.9	95.0	3.204	3	-
Student Feels Part of Group	93.3	95.0	94.5	94.0	0.313	3	-
Teacher Knows Child	97.7	94.0	90.1	90.8	5.859	3	-
Teacher Gives Help	92.1	83.5	87.1	88.8	3.866	3	-
Value of Studies	98.5	91.6	94.0	89.5	4.056	3	-
Proud of School	95.6	94.2	94.4	93.1	0.900	3	-
Teacher Interest in Child	93.1	85.0	86.7	89.3	3.935	3	-
Schools Compare Favorably	94.4	85.0	88.5	86.2	5.365	3	-
Satisfaction with Schools	91.9	88.4	90.9	89.1	1.096	3	-
Interest in Schools' Future	100.0	100.0	99.5	99.3	1.342	3	-
School Program							
Effectiveness of Studies	100.0	92.2	97.7	94.7	10.354	3	+
Part in Extra-Curricular Activities	94.3	77.7	79.8	74.2	16.836	3	+
Amount of Work to Keep Up	71.6	86.8	82.5	83.2	8.729	3	+
Amount of Homework	54.1	71.2	63.4	65.1	6.447	3	-
Enough Extra-Curricular Activities	93.0	80.2	87.0	94.0	20.068	3	+*

APPENDIX D.--Continued

Item	Q_4	Q_3	Q_2	Q_1	X^2	d.f.	P > .05
School Creates Interest in Extra-Curricular Activities	76.2	70.9	77.9	82.7	7.471	3	-
Variety of Subjects	88.8	81.8	88.4	80.2	8.083	3	+
Subject Wanted Not Taught	33.7	44.5	29.3	41.5	10.993	3	+
Help from Librarian	69.1	55.9	57.3	64.9	6.392	3	-
Money Needed for School	90.7	95.8	94.2	98.0	10.068	3	+*
Usefulness of Subjects	96.6	92.4	96.7	94.3	3.663	3	-
Essential Services Desired							
Audio-Visual	91.0	91.2	91.1	89.9	0.285	3	-
Physical Education	94.4	96.7	94.5	93.0	2.166	3	-
Field Trips	89.9	82.8	83.0	83.1	2.729	3	-
Music	95.6	91.6	85.7	90.6	7.909	3	+
Art	96.6	90.7	82.5	86.6	12.837	3	+
Hot Lunch	65.9	87.2	87.9	93.5	46.039	3	+*
Physical and Dental Examination	55.2	74.6	75.1	75.6	15.591	3	+*
Job Placement	64.1	68.4	68.4	75.4	5.566	3	-
Guidance	90.8	98.3	96.3	97.6	10.623	3	-
Speech Correction	94.3	99.2	97.7	98.3	6.473	3	-
Mental Health Clinic	89.5	89.6	85.2	86.7	1.764	3	-
Remedial Reading	97.7	97.3	94.8	97.3	3.066	3	-
Special Education	85.2	93.8	93.3	94.2	8.619	3	+*
Adult Education	75.0	74.1	72.6	70.1	1.167	3	-
Agriculture Program	37.0	71.3	67.3	83.3	68.423	3	+*

APPENDIX D.--Continued

Item	Q_4	Q_3	Q_2	Q_1	X^2	d.f.	P > .05
Social Activities	77.4	89.7	89.1	89.5	10.113	3	+*
Summer School	82.6	79.5	77.9	75.3	2.386	3	-
Driver Training	94.6	91.8	92.1	97.3	7.557	3	-
School Organization and Size							
School Overcrowded	52.3	52.9	39.6	41.6	8.688	3	+
School Plant							
Adequate Equipment and Facilities	77.3	50.4	54.7	50.2	21.496	3	+
Community Relations							
School-Community Relations	61.1	58.8	71.3	68.5	7.115	3	-
Faculty Status in Community	86.4	83.1	82.7	78.0	4.050	3	-
School as Informant	64.8	63.3	68.4	62.5	2.011	3	-
Minutes Published	75.8	83.5	62.4	79.2	25.103	3	+
Parent-Teacher Relations	97.8	86.3	88.9	89.1	8.045	3	+
Parent-Teacher Conferences	84.6	86.0	78.0	76.4	6.653	3	-
PTA Effectiveness	44.2	50.0	51.6	47.1	1.919	3	-
Taxes and Services Rendered	89.0	83.2	82.6	86.1	2.666	3	-
Increase Taxes	74.2	64.4	55.7	55.1	12.756	3	+

APPENDIX D.--Continued

Item	Q_4	Q_3	Q_2	Q_1	X^2	d.f.	P > .05
Know Child's Teacher or Parent	64.4	48.7	41.0	51.0	14.055	3	+
School-Community Information	53.9	30.3	43.9	37.7	13.972	3	+
Interest of Parents in School Activities	97.8	98.4	96.8	98.3	1.640	3	-

[1]The number of respondents are: (1) Q_4--91, (2) Q_3--117, (3) Q_2--215, and (4) Q_1--300.

The symbol "+" indicates significance, the symbol "+*" indicates significance, but with low support districts scoring higher than high support districts, and the symbol "-" indicates non-significance at P > .05.

APPENDIX E

Patrons Results by Quartile with Number of Respondents, Total Percentage of Favorable Response, "X^2", Degrees of Freedom, and Significance at $P > .05$

APPENDIX E.--Summary appendix for comparison of patrons by quartile.[1]

Item	Q_4	Q_3	Q_2	Q_1	X^2	d.f.	P > .05
Satisfaction with Schools							
Proud of School	93.9	94.0	92.7	92.7	0.224	3	-
Schools Compare Favorably	95.2	86.6	84.7	82.8	6.256	3	-
Satisfaction with Schools	88.9	80.3	90.9	83.6	5.336	3	-
Interest in Schools' Future	98.5	98.5	94.6	95.7	2.796	3	-
School Program							
Money Needed for School	63.5	73.9	80.9	71.5	6.661	3	-
Usefulness of Subjects	82.8	87.9	90.7	87.7	2.192	3	-
Essential Services							
Audio-Visual	90.5	84.1	89.0	91.0	2.486	3	-
Physical Education	93.9	93.9	91.9	89.5	2.163	3	-
Field Trips	83.1	75.0	70.0	73.7	3.752	3	-
Music	98.5	94.0	76.4	86.8	21.701	3	+
Art	95.4	87.3	75.0	77.1	14.785	3	+
Hot Lunch	70.8	90.9	81.8	94.8	32.561	3	+*
Physical and Dental Examination	73.8	86.2	82.7	77.1	4.452	3	-
Job Placement	67.8	78.7	72.2	74.4	2.023	3	-
Guidance	90.0	98.4	96.4	91.8	6.592	3	-
Speech Correction	98.5	98.5	94.6	94.7	3.487	3	-
Mental Health Clinic	82.3	92.3	77.1	83.0	6.518	3	-
Remedial Reading	97.0	98.4	92.3	94.3	3.398	3	-

APPENDIX E.--Continued

Item	Q_4	Q_3	Q_2	Q_1	X^2	d.f.	P > .05
Special Education	96.8	98.3	88.8	88.3	9.011	3	+
Adult Education	75.8	79.4	65.4	68.0	5.114	3	-
Agriculture Program	40.7	71.4	72.4	84.4	47.008	3	+*
Social Activities	72.6	82.3	83.6	83.6	4.281	3	-
Summer School	78.1	84.4	68.2	68.0	8.472	3	+
Driver Training	87.5	89.4	92.8	94.4	4.327	3	-
Community Relations							
School-Community Relations	51.6	41.8	60.0	53.3	5.601	3	-
Faculty Status in Community	74.6	69.2	77.4	65.4	5.723	3	-
School as Informant	51.6	46.3	45.5	51.1	1.319	3	-
Minutes Published	76.2	78.5	73.0	86.0	9.266	3	+
Taxes and Services Rendered	81.3	77.6	81.7	79.7	0.514	3	-
Increase Taxes	67.2	53.7	58.2	51.1	5.915	3	-
School-Community Information	33.9	40.3	34.0	40.0	1.747	3	-

[1]The number of respondents are: (1) Q_4--65, (2) Q_3--67, (3) Q_2--110, and (4) Q_1--233.

The symbol "+" indicates significance, the symbol "+*" indicates significance, but with low support districts scoring higher than high support districts, and the symbol "-" indicates non-significance at P > .05.

APPENDIX F

Faculty Results by Quartile with Number of Respondents, Total Percentage of Favorable Response, "X^2", Degrees of Freedom, and Significance at $P > .05$

APPENDIX F.--Summary appendix for comparison of faculty by quartile.[1]

Item	Q_4	Q_3	Q_2	Q_1	X^2	d.f.	P > .05
Satisfaction with Schools							
Like School	87.5	100.0	93.1	93.3	1.582	3	-
Student Feels Part of Group	100.0	100.0	100.0	93.6	3.698	3	-
Teacher Knows Child	100.0	100.0	100.0	86.7	7.695	3	-
Teacher Gives Help	100.0	100.0	100.0	100.0	0.000	3	-
Value of Studies	100.0	90.9	86.2	83.9	2.946	3	-
Proud of School	100.0	100.0	100.0	87.7	7.574	3	-
Teacher Interest in Child	100.0	100.0	96.6	93.6	1.804	3	-
Schools Compare Favorably							
Elementary Schools							
Curriculum	100.0	90.9	78.6	71.0	6.688	3	-
Teaching Staff	100.0	90.0	82.1	90.3	3.488	3	-
Building	68.8	81.8	89.3	61.3	6.644	3	-
Equipment	81.3	80.0	74.1	64.5	1.922	3	-
Secondary School							
Curriculum	100.0	88.9	82.8	65.5	8.274	3	+
Teaching Staff	100.0	88.9	89.7	86.7	2.109	3	-
Building	93.3	60.0	79.3	56.7	8.253	3	+
Equipment	86.7	77.8	69.0	60.0	3.678	3	-
Satisfaction with Schools	93.8	90.0	89.3	77.4	3.055	3	-
Interest in Schools' Future	100.0	100.0	96.6	93.6	1.804	3	-
School Program							
Effectiveness of Studies	100.0	100.0	93.1	90.3	2.512	3	-
Part in Extra-Curricular Activities	100.0	81.8	92.9	80.0	5.106	3	-

APPENDIX F.--Continued

Item	Q_4	Q_3	Q_2	Q_1	X^2	d.f.	P > .05
Amount of Work to Keep Up	75.0	100.0	82.8	74.2	3.846	3	-
Amount of Homework	62.5	81.8	74.1	66.7	1.537	3	-
Enough Extra-Curricular Activities	87.5	81.8	85.7	71.0	2.759	3	-
School Creates Interest in Extra-Curricular Activities	100.0	81.8	77.8	58.1	10.126	3	+
Variety of Subjects	93.8	90.0	71.4	48.4	12.968	3	+
Subject Wanted Not Taught	56.3	45.5	72.4	71.0	3.586	3	-
Help from Librarian	68.8	60.0	64.3	56.7	0.750	3	-
Money Needed for School	81.3	63.6	82.1	77.4	1.702	3	-
Usefulness of Subjects	93.8	100.0	93.1	93.5	0.708	3	-
Essential Services Desired							
Audio-Visual	100.0	100.0	100.0	100.0	0.000	3	-
Physical Education	93.8	100.0	96.6	100.0	2.222	3	-
Field Trips	81.3	90.9	100.0	83.3	5.638	3	-
Music	100.0	100.0	100.0	100.0	0.000	3	-
Art	100.0	100.0	96.6	96.8	0.924	3	-
Hot Lunch	60.0	81.8	65.5	96.8	11.890	3	+*
Physical and Dental Examination	43.8	72.7	75.9	71.0	5.369	3	-
Job Placement	87.5	81.8	81.5	64.5	4.095	3	-
Guidance	100.0	100.0	100.0	100.0	0.000	3	-
Speech Correction	100.0	100.0	96.6	100.0	1.989	3	-
Mental Health Clinic	87.5	100.0	89.7	83.3	2.247	3	-

APPENDIX F.--Continued

Item	Q_4	Q_3	Q_2	Q_1	X^2	d.f.	P > .05
Remedial Reading	93.8	100.0	100.0	100.0	4.426	3	-
Adult Education	87.5	72.7	71.4	87.1	3.213	3	-
Agriculture Program	12.5	45.5	21.4	83.8	31.992	3	+
Social Activities	93.8	100.0	96.4	96.6	0.742	3	-
Summer School	93.8	100.0	84.0	71.0	6.803	3	-
Driver Training	93.8	90.9	92.6	87.1	0.759	3	-
School Organization and Size							
School Overcrowded	68.8	72.7	69.0	83.9	2.207	3	-
Supervisory Assistance	81.3	90.9	86.2	51.6	12.252	3	+
School Plant							
Adequate Equipment and Facilities	50.0	45.5	28.6	38.7	2.287	3	-
Community Relations							
School-Community Relations	31.3	54.6	82.8	58.1	12.019	3	+*
Faculty Status in Community	75.0	63.6	72.4	74.2	0.527	3	-
School as Informant	37.5	63.6	55.2	45.2	2.408	3	-
Minutes Published	87.5	81.8	67.9	87.1	4.175	3	-
Parent-Teacher Relations	100.0	90.0	93.1	70.0	10.259	3	+
Parent-Teacher Conferences	81.3	90.9	75.9	80.7	1.161	3	-

APPENDIX F.--Continued

Item	Q_4	Q_3	Q_2	Q_1	X^2	d.f.	P > .05
PTA Effectiveness	56.3	20.0	25.9	24.1	6.347	3	-
Taxes and Services Rendered	81.3	70.0	85.7	76.6	1.405	3	-
Increase Taxes							
Know Child's Teacher or Parent	43.8	36.4	28.6	30.0	1.264	3	-
School-Community Information	43.8	40.0	51.7	20.0	6.706	3	-
Interest of Parents in School Activities	93.8	81.4	67.9	67.9	4.755	3	-

[1]The number of respondents are: (1) Q_4--16, (2) Q_3--11, (3) Q_2--29, and (4) Q_1--30.

The symbol "+" indicates significance, the symbol "+*" indicates significance, but with low support districts scoring higher than high support districts, and the symbol "-" indicates non-significance at P > .05.

APPENDIX G

Fourth Quartile Results by Battery with Number of Respondents, Total Percentage of Favorable Response, "X^2", Degrees of Freedom, and Significance at P > .05

APPENDIX G.--Summary appendix for comparison of fourth quartile by battery.[1]

Item	Elementary Pupil	Secondary Student	Parent	Patron	Faculty	X^2	d.f.	P>.05
Satisfaction with Schools								
Like School	90.4	61.1	97.8	--	87.5	56.686	3	+
Student Feels Part of Group	72.2	55.1	93.3	--	100.0	36.304	3	+
Teacher Knows Child	92.1	67.5	97.7	--	100.0	47.205	3	+
Teacher Gives Help	94.5	89.4	92.1	--	100.0	3.605	3	-
Value of Studies	87.3	51.3	88.5	--	100.0	59.568	3	+
Proud of School	92.9	76.3	95.6	93.9	100.0	29.068	4	+
Teacher Interest in Child	83.5	62.0	93.1	--	100.0	36.713	3	+
Schools Compare Favorably	84.3	84.8	94.4	95.2	93.3	19.639	4	+
Satisfaction with Schools	89.8	70.2	91.9	88.9	93.8	26.379	4	+
Interest in Schools' Future	94.5	60.2	100.0	98.5	100.0	102.984	4	+
School Program								
Effectiveness of Studies	96.1	79.0	100.0	--	100.0	36.333	3	+
Part in Extra-Curricular Activities	65.9	71.9	94.3	--	100.0	29.901	3	+
Amount of Work to Keep Up	59.7	47.4	71.6	--	75.0	13.879	3	+
Amount of Homework	59.8	57.9	54.1	--	62.5	0.834	3	-
Enough Extra-Curricular Activities	46.8	87.7	93.0	--	87.5	77.159	3	+

APPENDIX G.--Continued

Item	Elementary Pupil	Secondary Student	Parent	Patron	Faculty	X^2	d.f.	P>.05
School Creates Interest in Extra-Curricular Activities	52.8	69.3	76.2	--	100.0	22.146	3	+
Variety of Subjects	86.5	78.1	88.8	--	93.8	6.308	3	-
Subjects Wanted Not Taught	50.4	50.4	33.7	--	56.3	7.946	3	+
Help from Librarian	81.1	47.8	69.1	--	68.8	30.185	3	+
Money Needed for School	56.7	90.2	90.7	63.5	81.3	52.886	4	+
Usefulness of Subjects	98.4	79.5	96.6	82.8	93.8	32.291	4	+
Essential Services Desired								
Audio-Visual	92.1	83.6	91.0	90.5	100.0	7.121	4	-
Physical Education	94.4	83.2	94.4	93.9	93.8	12.590	4	+
Field Trips	96.1	80.5	89.9	83.1	81.3	16.031	4	+
Music	71.4	71.7	95.6	98.5	100.0	45.011	4	+
Art	87.0	81.4	96.6	95.4	100.0	17.629	4	+
Hot Lunch	54.7	78.8	65.9	70.8	60.0	15.828	4	+
Physical and Dental Examination	56.9	44.6	55.2	73.8	43.8	14.548	4	+
Job Placement	--	73.2	64.1	67.8	87.5	4.324	3	-
Guidance	--	91.2	90.8	97.0	100.0	3.988	3	-
Speech Correction	80.8	84.1	94.3	98.5	100.0	20.349	4	+
Mental Health Clinic	65.3	72.6	89.5	82.3	87.5	19.642	4	+
Remedial Reading	78.1	74.1	97.7	97.0	93.8	34.524	4	+
Special Education	76.0	85.0	85.2	96.8	93.8	15.049	4	+

APPENDIX G.--Continued

Item	Elementary Pupil	Secondary Student	Parent	Patron	Faculty	X^2	d.f.	P>.05
Adult Education	--	75.0	75.0	75.8	87.5	1.265	3	-
Agriculture Program	--	43.2	37.0	40.7	12.5	5.766	3	-
Social Activities	88.0	82.1	77.4	72.6	93.8	9.469	4	-
Summer School	46.8	94.7	82.6	78.1	93.8	81.690	4	+
Driver Training	--	93.8	91.8	87.5	93.8	2.236	3	-
School Organization and Size								
School Overcrowded	32.3	78.1	52.3	--	68.8	51.734	3	+
Supervisory Assistance	--	--	--	--	81.3	0.000	0	-
School Plant								
Adequate Equipment and Facilities	58.1	39.5	77.3	--	50.0	29.284	3	+
Community Relations								
School-Community Relations	--	--	61.1	51.6	31.3	5.298	2	-
Faculty Status in Community	--	--	86.4	74.6	75.0	3.668	2	-
School as Informant	--	--	64.8	51.6	37.5	5.498	2	-
Minutes Published	--	--	75.8	76.2	87.5	1.092	2	-

APPENDIX G.--Continued

Item	Elementary Pupil	Secondary Student	Parent	Patron	Faculty	X^2	d.f.	P>.05
Parent-Teacher Relations	--	--	97.8	--	100.0	0.362	1	-
Parent-Teacher Conferences	--	--	84.6	--	81.3	0.115	1	-
PTA Effectiveness	--	--	44.0	--	56.3	0.829	1	-
Taxes and Services Rendered	--	--	89.0	81.3	81.3	2.054	2	-
Increase Taxes	--	--	74.2	67.2	--	0.911	1	-
Know Child's Teacher or Parent	--	--	64.4	--	43.8	2.419	1	-
School-Community Information	--	--	53.9	--	43.8	6.138	2	+
Interest of Parents in School Activities	96.0	87.4	97.8	--	93.8	10.852	3	+

[1]The number of respondents are: (1) elementary pupils--127, (2) secondary students--114, (3) parents--91, (4) patrons--65, and (5) faculty--16.

The symbol "+" indicates significance and the symbol "-" indicates non-significance at P>.05.

APPENDIX H

Third Quartile Results by Battery with Number of Respondents, Total Percentage of Favorable Response, "X^2", Degrees of Freedom, and Significance at P > .05

APPENDIX H.--Summary appendix for comparison of third quartile by battery.[1]

Item	Elementary Pupil	Secondary Student	Parent	Patron	Faculty	X^2	d.f.	P>.05
Satisfaction with Schools								
Like School	85.7	73.2	92.3	--	100.0	18.356	3	+
Student Feels Part of Group	74.1	55.0	95.0	--	100.0	53.971	3	+
Teacher Knows Child	93.8	63.1	94.0	--	100.0	55.262	3	+
Teacher Gives Help	97.3	88.4	83.5	--	100.0	13.649	3	+
Value of Studies	81.3	55.4	91.6	--	90.9	46.049	3	+
Proud of School	87.4	73.2	94.2	94.0	100.0	28.733	4	+
Teacher Interest in Child	87.5	61.3	85.0	--	100.0	30.899	3	+
Schools Compare Favorably	67.6	68.5	85.0	86.6	85.5	13.046	4	+
Satisfaction with Schools	84.8	75.0	100.0	98.5	100.0	46.952	4	+
Interest in Schools' Future	84.8	75.0	100.0	98.5	100.0	46.952	4	+
School Program								
Effectiveness of Studies	93.8	76.8	92.2	--	100.0	20.185	3	+
Part in Extra-Curricular Activities	63.1	64.2	77.7	--	81.8	8.111	3	+
Amount of Work to Keep Up	64.3	48.2	86.8	--	100.0	45.183	3	+
Amount of Homework	51.4	48.6	71.2	--	81.8	16.947	3	+
Enough Extra-Curricular Activities	51.4	72.2	80.2	--	81.8	24.049	3	+

APPENDIX H.--Continued

Item	Elementary Pupil	Secondary Student	Parent	Patron	Faculty	X^2	d.f.	P>.05
School Creates Interest in Extra-Curricular Activities	56.4	56.9	70.9	--	81.8	8.511	3	+
Variety of Subjects	93.8	62.4	81.8	--	90.0	35.017	3	+
Subject Wanted Not Taught	48.2	71.4	44.5	--	45.5	19.825	3	+
Help from Librarian	68.5	48.7	55.9	--	60.0	9.177	3	+
Money Needed for School	52.8	92.0	95.8	73.9	63.6	79.320	3	+
Usefulness of Subjects	95.5	82.1	92.4	87.9	100.0	13.693	4	+
Essential Services Desired								
Audio-Visual	83.5	92.8	91.2	84.1	100.0	8.270	4	-
Physical Education	86.7	77.5	96.7	93.9	100.0	25.031	4	+
Field Trips	86.1	87.5	82.8	75.0	90.9	5.742	4	-
Music	58.0	82.0	91.6	94.0	100.0	56.433	4	+
Art	88.0	84.6	90.7	87.3	100.0	3.585	4	-
Hot Lunch	84.4	83.0	87.2	90.9	81.8	2.614	4	-
Physical and Dental Examination	75.5	54.1	74.6	86.2	72.7	24.580	4	+
Job Placement	--	83.0	63.4	78.7	81.8	7.272	3	-
Guidance	--	96.4	98.3	98.4	100.0	1.400	3	-
Speech Correction	80.2	90.1	99.2	98.5	100.0	33.312	4	+
Mental Health Clinic	69.7	80.9	89.6	92.3	100.0	23.338	4	+
Remedial Reading	79.3	90.9	97.3	98.4	100.0	28.472	4	+
Special Education	79.6	92.9	93.8	98.3	100.0	22.637	4	+

APPENDIX H.--Continued

Item	Elementary Pupil	Secondary Student	Parent	Patron	Faculty	X^2	d.f.	P>.05
Adult Education	--	87.3	74.1	79.4	72.7	6.507	3	-
Agriculture Program	--	63.1	71.3	71.4	45.5	4.619	3	-
Social Activities	86.4	90.2	89.7	82.3	100.0	4.542	4	-
Summer School	52.8	82.1	79.5	84.4	100.0	38.865	4	+
Driver Training	--	96.4	92.1	89.4	90.9	3.520	3	-
School Organization and Size								
School Overcrowded	28.4	69.6	52.9	--	72.7	40.026	3	+
Supervisory Assistance	--	--	--	--	90.9	0.000	0	-
School Plant								
Adequate Equipment and Facilities	39.5	17.0	50.4	--	45.5	29.412	3	+
Community Relations								
School-Community Relations	--	--	58.5	41.8	54.6	5.004	2	-
Faculty Status in Community	--	--	83.1	69.2	63.6	5.810	2	-
School as Informant	--	--	63.3	46.3	63.6	5.301	2	-
Minutes Published	--	--	83.5	78.5	81.8	0.711	2	-

APPENDIX H.--Continued

Item	Elementary Pupil	Secondary Student	Parent	Patron	Faculty	X^2	d.f.	P>.05
Parent-Teacher Relations	--	--	86.3	--	90.0	0.107	1	-
Parent-Teacher Conferences	--	--	86.0	--	90.0	0.211	1	-
PTA Effectiveness	--	--	50.0	--	20.0	3.322	1	-
Taxes and Services Rendered	--	--	83.2	77.6	70.0	1.614	2	-
Increase Taxes	--	--	64.4	53.7	--	2.039	1	-
Know Child's Teacher or Parent	--	--	48.7	--	36.4	0.618	1	-
School-Community Information	--	--	30.3	40.3	40.0	2.070	2	-
Interest of Parents in School Activities	92.7	87.5	98.4	--	81.8	12.001	3	+

[1]The number of respondents are: (1) elementary pupils--112, (2) secondary students--112, (3) parents--117, (4) patrons--67, (5) faculty--11.

The symbol "+" indicates significance and the symbol "-" indicates non-significance at P > .05

APPENDIX I

Second Quartile Results by Battery with Number of Respondents, Total Percentage of Favorable Response, "X^2", Degrees of Freedom, and Significance at P > .05

APPENDIX I.--Summary appendix for comparison of second quartile by battery.[1]

Item	Elementary Pupil	Secondary Student	Parent	Patron	Faculty	X^2	d.f.	P>.05
Satisfaction with Schools								
Like School	88.7	76.7	94.9	--	93.1	36.789	3	+
Student Feels Part of Group	72.5	55.4	94.5	--	100.0	104.387	3	+
Teacher Knows Child	83.8	76.7	90.1	--	100.0	42.747	3	+
Teacher Gives Help	96.0	91.2	87.1	--	100.0	15.758	3	+
Value of Studies	92.8	70.2	94.0	--	86.2	73.183	3	+
Proud of School	85.1	85.1	94.4	92.7	100.0	19.649	4	+
Teacher Interest in Child	85.8	72.5	86.7	--	96.6	25.901	3	+
Schools Compare Favorably	66.7	61.7	88.5	84.7	78.6	53.772	4	+
Satisfaction with Schools	87.3	74.1	90.9	90.9	89.3	34.666	4	+
Interest in Schools' Future	87.3	76.7	99.5	94.6	96.6	67.374	4	+
School Program								
Effectiveness of Studies	96.7	84.8	97.7	--	93.1	39.664	3	+
Part in Extra-Curricular Activities	66.7	68.7	79.8	--	92.9	17.749	3	+
Amount of Work to Keep Up	66.3	56.1	82.5	--	82.8	41.222	3	+
Amount of Homework	42.4	54.2	63.4	--	74.1	26.648	3	+
Enough Extra-Curricular Activities	56.9	72.8	87.0	--	85.7	56.901	3	+

APPENDIX I.--Continued

Item	Elementary Pupil	Secondary Student	Parent	Patron	Faculty	X^2	d.f.	P>.05
School Creates Interest in Extra-Curricular Activities	63.8	74.8	77.9	--	77.8	14.415	3	+
Variety of Subjects	88.8	50.0	88.4	--	71.4	134.484	3	+
Subjects Wanted Not Taught	48.9	67.2	29.3	--	72.4	71.949	3	+
Help from Librarian	66.3	60.9	57.3	--	64.3	4.240	3	-
Money Needed for School	65.0	94.7	94.2	80.9	82.1	107.892	4	+
Usefulness of Subjects	97.5	85.2	96.7	90.7	93.1	36.622	4	+
Essential Subjects								
Audio-Visual	83.8	86.2	91.1	89.0	100.0	10.425	4	-
Physical Education	89.6	90.8	94.5	91.9	96.6	4.897	4	-
Field Trips	82.0	77.0	83.0	70.0	100.0	17.106	4	+
Music	69.4	69.9	85.7	76.4	100.0	31.595	4	+
Art	77.4	70.5	82.5	75.0	96.6	16.278	4	+
Hot Lunch	83.4	71.8	87.9	81.8	65.5	25.302	4	+
Physical and Dental Examination	69.8	54.1	75.1	82.7	75.9	40.536	4	+
Job Placement	--	80.8	68.4	72.2	81.5	10.489	3	+
Guidance	--	98.5	96.3	96.4	100.0	3.458	3	-
Speech Correction	80.9	91.9	97.7	94.6	96.6	45.812	4	+
Mental Health Clinic	71.4	75.8	85.2	77.1	88.7	15.665	4	+
Remedial Reading	84.2	79.1	94.8	92.6	100.0	34.204	4	+
Special Education	77.5	87.3	93.3	88.8	96.6	29.439	4	+

APPENDIX I.--Continued

Item	Elementary Pupil	Secondary Student	Parent	Patron	Faculty	S^2	d.f.	P>.05
Adult Education	--	73.7	72.6	65.4	71.4	2.662	3	-
Agriculture Program	--	59.8	67.3	72.4	21.4	27.447	3	+
Social Activities	86.7	90.8	89.1	83.6	96.4	6.596	4	-
Summer School	59.6	78.2	77.9	68.2	84.0	31.088	4	+
Driver Training	--	94.2	93.4	92.8	92.6	0.350	3	+
School Organization								
School Overcrowded	24.4	68.9	39.6	--	69.0	115.575	3	+
Supervisory Assistance	--	--	--	--	86.2	0.000	0	-
School Plant								
Adequate Equipment and Facilities	39.1	25.0	54.7	--	28.6	44.939	3	+
Community Relations								
School-Community Relations	--	--	71.3	60.0	82.8	7.218	2	+
Faculty Status in Community	--	--	82.7	77.4	72.4	2.457	2	-
School as Informant	--	--	68.4	45.5	55.2	16.277	2	+
Minutes Published	--	--	62.4	73.0	67.9	3.655	2	-

APPENDIX I.--Continued

Item	Elementary Pupil	Secondary Student	Parent	Patron	Faculty	S^2	d.f.	P>.05
Parent-Teacher Relations	--	--	88.9	93.1	89.4	0.479	2	-
Parent-Teacher Conferences	--	--	78.0	--	75.9	0.066	1	-
PTA Effectiveness	--	--	51.6	--	25.9	6.343	1	+
Taxes and Services Rendered	--	--	82.6	81.7	85.7	0.244	2	-
Increase Taxes	--	--	55.7	58.2	--	0.187	1	-
Know Child's Teacher or Parent	--	--	41.0	--	28.6	1.607	1	-
School-Community Information	--	--	43.9	34.0	51.7	4.219	2	-
Interest of Parents in School Activities	95.6	78.9	96.8	--	67.9	66.805	3	+

[1]The number of respondents are: (1) elementary pupils--275, (2) secondary students--262, (3) parents--215, (4) patrons--110, and (5) faculty--29.

The symbol "+" indicates significance and the symbol "-" indicates non-significance at P > .05.

APPENDIX J

First Quartile Results by Battery with Number of Respondents, Total Percentage of Favorable Response, "X^2", Degrees of Freedom, and Significance at P > .05

APPENDIX J.--Summary appendix for comparison of first quartile by battery.[1]

Item	Elementary Pupil	Secondary Student	Parent	Patron	Faculty	X^2	d.f.	P>.05
Satisfaction with Schools								
Like School	82.0	75.5	95.0	--	93.3	49.391	3	+
Student Feels Part of Group	77.1	71.2	94.1	--	93.6	61.449	3	+
Teacher Knows Child	82.5	84.7	90.8	--	86.7	9.702	3	+
Teacher Gives Help	91.6	93.4	88.8	--	100.0	7.529	3	-
Value of Studies	83.1	66.6	89.5	--	83.9	59.842	3	+
Proud of School	89.9	88.4	93.1	92.7	87.1	6.320	4	-
Teacher Interest in Child	78.7	79.7	89.3	--	93.6	17.681	3	+
Schools Compare Favorably	74.4	86.2	86.2	82.8	71.0	17.496	4	+
Satisfaction with Schools	86.9	79.7	89.1	83.6	77.4	14.343	4	+
Interest in Schools' Future	92.1	81.6	99.3	95.7	93.6	77.070	4	+
School Program								
Effectiveness of Studies	92.1	85.8	94.7	--	90.3	17.391	3	+
Part in Extra-Curricular Activities	63.9	75.3	74.2	--	80.0	14.958	3	+
Amount of Work to Keep Up	60.3	58.7	83.2	--	74.2	55.819	3	+
Amount of Homework	45.8	58.3	65.1	--	66.7	28.072	3	+
Enough Extra-Curricular Activities	57.4	64.4	94.0	--	71.0	117.337	3	+

APPENDIX J.--Continued

Item	Elementary Pupil	Secondary Student	Parent	Patron	Faculty	X^2	d.f.	P>.05
School Creates Interest in Extra-Curricular Activities	60.4	66.8	82.7	--	58.1	41.469	3	+
Variety of Subjects	81.4	50.7	80.2	--	48.4	109.799	3	+
Subject Wanted Not Taught	49.9	69.7	41.5	--	71.0	62.145	3	+
Help from Librarian	69.4	60.9	64.9	--	56.7	6.855	3	-
Money Needed for School	70.8	89.7	98.0	71.5	77.4	119.753	4	+
Usefulness of Subjects	95.4	86.1	94.3	87.7	93.6	27.082	4	+
Essential Services Desired								
Audio-Visual	91.4	84.0	89.3	91.0	100.0	16.553	4	+
Physical Education	89.8	92.1	93.0	89.5	100.0	6.312	4	-
Field Trips	87.5	77.0	83.1	73.7	83.3	22.631	4	+
Music	66.9	76.1	90.6	86.8	100.0	75.781	4	+
Art	75.9	73.7	86.6	77.1	96.8	24.418	4	+
Hot Lunch	89.7	86.5	93.5	94.8	96.8	17.021	4	+
Physical and Dental Examination	70.7	56.8	75.6	77.1	71.0	39.801	4	+
Job Placement	79.2	75.4	74.4	64.5	76.4	4.640	4	-
Guidance	--	94.4	97.6	91.8	100.0	10.980	3	+
Speech Correction	80.8	90.4	98.3	94.7	100.0	68.509	4	+
Mental Health Clinic	76.3	78.5	86.7	83.0	83.3	13.228	4	+
Remedial Reading	83.4	84.5	97.3	94.3	100.0	50.602	4	+
Special Education	78.3	90.5	94.2	88.3	96.8	46.048	4	+

APPENDIX J.--Continued

Item	Elementary Pupil	Secondary Student	Parent	Patron	Faculty	X^2	d.f.	P>.05
Adult Education	--	77.7	70.1	68.0	87.1	11.297	3	+
Agriculture Program	--	88.5	83.3	84.4	83.9	4.140	3	-
Social Activities	91.7	91.7	89.5	83.6	96.6	14.130	4	+
Summer School	59.6	72.7	75.3	68.0	71.0	22.693	4	+
Driver Training	--	98.9	97.3	94.4	87.1	20.096	3	+
School Organization								
School Overcrowded	29.3	40.0	41.6	--	83.9	41.613	3	+
School Plant								
Adequate Equipment and Facilities	25.7	25.3	50.2	--	38.7	59.567	3	+
Community Relations								
School-Community Relations	--	--	68.5	53.3	58.1	13.143	2	+
Faculty Status in Community	--	--	78.0	65.4	74.2	10.470	2	+
School as Informant	--	--	62.5	51.1	45.2	8.817	2	+
Minutes Published	--	--	79.2	86.0	87.1	4.595	2	-

APPENDIX J.--Continued

Item	Elementary Pupil	Secondary Student	Parent	Patron	Faculty	X^2	d.f.	P>.05
Parent-Teacher Relations	--	--	89.1	--	70.0	9.044	1	+
Parent-Teacher Conferences	--	--	76.4	--	80.7	0.285	1	-
PTA Effectiveness	--	--	47.1	--	24.1	5.645	1	+
Taxes and Services Rendered	--	--	86.1	79.7	76.7	4.652	2	-
Increase Taxes	--	--	55.1	51.1	--	0.828		
Know Child's Teacher or Parent	--	--	51.0	--	30.0	4.813	1	+
School-Community Information	--	--	37.7	40.0	20.0	4.521	2	-
Interest of Parents in School Activities	94.5	84.4	98.3	--	67.9	65.613	3	+

[1]The number of respondents are: (1) elementary pupils--366, (2) secondary students--380, (3) parents--300, (4) patrons--233, and (5) faculty--30.

The symbol "+" indicates significance and the symbol "-" indicates non-significance at P > .05.