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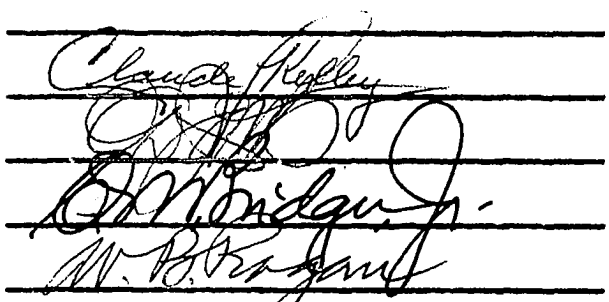

DISSERTATION COMMITTEE

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TABLE OF CONTENTS

LIST OF TABLES

SCHOOL DISTRICT SIZE AND PER PUPIL EXPENDITURE

CHAPTER I

INTRODUCTION

Background and Need for the Study

School enrollments in practically every state have risen and continue to rise as a result of the increase in the number of births and the holding power of the schools. Millions of children are now being taught in overcrowded classrooms and many others are attending on a half-day basis.

The minimum foundation program in the state systems of school finance recognize the relationship between size of school district and per pupil cost. Enrollment totaled 42.8 million pupils in 1964-65: 27.1 million elementary and 15.7 million secondary, requiring the services of 1,788,805 instructional personnel and costing about $23 billion for all purposes exclusive of debt retirement.[1]

The demand for revenue to meet the cost of increasing enrollment, additional services, and an expanded curriculum continues to increase. In 1964-65 the national cost per pupil in average total daily

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[1]National Education Association Research Bulletin, Research Division, Feb. 1965, Vol. 43, No. 1 (Washington: National Education Association, 1965), p. 3.

attendance was $483 which was five per cent higher than the estimated cost of $460 per pupil in 1963-64.[1] In a report on financing the public schools, the National Education Association's Special Report on School Finance estimated that a total expenditure of $33,600,000 would be needed annually by 1969-70 to meet the current operating expenses of the public elementary and secondary schools. The basis for this projected cost is a minimum standard[2] of quality education for an estimated 46,700,000 pupils and a $720.00 per pupil expenditure.[3]

A school's fundamental function is to provide an educational program that will meet the needs of all youth under its supervision. This should be the major objective of teachers, boards of education, governmental representatives, parents, and other citizens. Those responsible for planning educational experiences should be concerned about efficient size and wise expenditure of the taxpayers' dollar. The degree to which two factors--cost and the educational program are colated should provide the answer to questions frequently posed by citizens: Are the schools receiving maximum returns for dollars spent?

Improvement in the quality of the educational program constitutes one of the basic problems in providing adequate educational opportunities for all youth. The question of the cost-quality relationship in education involves the issue of what is quality education.

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[1] Ibid., p. 4.

[2] National Education Association, Financing Public Schools 1960-70, Special Project on Finance (Washington: National Education Association, 1962), p. 22.

[3] Ibid., p. 22.

Most people want to step up the quality of education in the United States, but they vigorously disagree on what quality education is and how it may be achieved.[1] The relationship of costs to quality is one of the most challenging, important, and difficult phases of research in school finance.[2] Research has tended to substantiate the correlation between various measures of school quality and expenditure levels. Evidence from research studies conducted for several decades indicates that program, personnel, and finance are the three major factors that influence quality. Among the factors that have been identified as affecting the quality of program and personnel are: scope and depth of curriculum offerings, pupil-teacher ratio, class size, level of training of professional personnel, assignment of teachers according to areas of training, and salaries of teachers. Accrediting agencies, State Departments of Education, professional associations, and legislative assemblies have identified minimum standards in each of these areas as desirable goals to be attained. Shelley[3], in his study conducted in 1957, concluded that approximately 70 per cent of the advance in school quality is accounted for by the following factors: school size, teacher certification, average salary of the teacher,

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[1]National Education Association, Committee on Tax Education and School Finance, "Does Better Education Cost More," (Washington: National Education Association, 1959), p. 8.

[2]Encyclopedia of Education Research, Finance-Public School (New York: MacMillan Company, 1960), p. 556.

[3]Herman W. Shelley, "An Analysis of the Relationship Between Eight Factors and Three Measures of Quality in Thirty-nine South Carolina Secondary Schools," (unpublished Doctor's dissertation, University of Florida, Gainsville, 1957).

scope of the educational program, quality of the administration, condition of the school plant facilities, social and economic level of the community, and the amount of money spent for instruction per teacher. Dungan[1], in 1961, found that program of studies, curriculum offerings, school plant facilities, and salaries of teachers were significantly related to school quality. Dawson[2] associated school quality to factors such as curricular offerings, school organization patterns, pupil-teacher ratio, qualification of teachers, school size, length of school terms, transportation facilities, and physical facilities. Dawson contends that these characteristics, if maintained to sufficiently high standards will constitute a satisfactory school. The effectiveness of the educational program will be determined to a large extent by the adequacy of financial support. Woollatt[3], in 1949, attempted to determine whether there was a point of diminishing educational return as levels of school expenditure increased. A criterion of quality was developed on the basis of findings of psychological research over the past 50 years. Trained observers visited and evaluated 33 of the highest expenditure level school systems in New York City. Findings of this study showed no tapering off of educational returns

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[1]James R. Dungan, "Relationships between the Measures of Quality, Internally Variable Factors, and Externally Variable Factors in Selected Florida Secondary Schools," (unpublished Doctor's dissertation, University of Florida, Gainsville, 1961).

[2]Howard A. Dawson, Satisfactory Local School Units, George Peabody College for Teachers (Nashville, Tennessee: Division of Surveys and Fields Studies, 1934), pp. 13-14.

[3]Lorne H. Woollatt, The Cost-Quality Relationship on the Growing Edge, Metropolitan School Study Council, Research Studies No. 4 (New York Bureau of Publication, Teachers College, Columbia University, 1949).

as levels of expenditure increased.

Statements by Norton and Lawler provide a summary of research findings concerning the relationship of finance and quality education:

> "It is true that the amount of money spent to run a classroom does not wholly determine the quality of schooling...however, in well financed schools will generally be found the best teachers, excellent buildings and equipment, many fine books, and well rounded curriculum."[1]

Various attempts have been made to identify an ideal school size for the most effective and efficient utilization of program, personnel and finance. Optimum size may depend on many factors, it is, nevertheless, true that elementary schools having fewer than 200 or 300 pupils are more expensive to maintain than larger schools providing similar services. High schools having fewer than 300 to 400 pupils are more expensive to maintain than larger schools if a diversified program is offered. Those having fewer than 100 are especially expensive or inadequate, or both. Even with higher unit costs, it is difficult and sometimes impossible to provide adequate educational services in the small high schools.[2]

Size of the secondary school does not necessarily reflect the quality of the educational program. On the other hand, if an exorbitant per pupil cost is to be avoided, the enrollment must be large enough to justify a comprehensive program. In 1959, Dr. Conant analyzed the educational programs available in large comprehensive high schools

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[1]John K. Norton and Eugene S. Lawler, Unfinished Business in American Education (Washington, D. C.: American Council of Education, 1946).

[2]American Association of School Administrators, School District Organization (Washington, D. C.: American Association of School Administrators, 1958), p. 210.

in relation to what purposes he thought the public schools should be serving. He maintained that the diverse curriculum necessary to meet the needs of all youth could be provided at a reasonable per pupil expense only in large comprehensive high schools. For those schools where the enrollment was not sufficient to have a graduating class of at least 100 pupils, Dr. Conant made this statement: "The prevalence of such high schools--those with a graduating class of less than 100 students--constitutes one of the most serious obstacles to good secondary education throughout most of the United States."[1]

For the past several decades, educational leaders have been attempting to overcome the inequalities of educational opportunity created by small schools. The reorganization of small school districts and consolidation of small schools into larger has resulted in improved educational opportunities for many youth. Nationwide, considerable progress has been made in the last three decades in reducing the number of local school districts. The number of districts in 1932 was 127,531; in 1949, it was 83,718; in 1959-60 it was 40,520; and in 1964-65 it was 28,814.[2]

In 1961, 16,551 school districts, 45.5 per cent of the total, were operating with nine or fewer teachers. In the same year, there were 6,492 school districts or approximately 17.8 per cent operating with 40 or more teachers.[3] The preponderance of school districts

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[1]James B. Conant, The American High School Today (New York: McGraw Hill Book Company, Inc., 1959), p. 77.

[2]National Education Association Research Bulletin, op. cit., p. 5.

[3]American Association of School Administrators, School District Reorganization: Journey That Must Not End (Washington, D. C.: American Association of School Administrators, 1962), p. 6.

with so few teachers indicate that a considerable number of small schools exist. In regard to the large number of small schools, Conant, in 1959, said that he was convinced "...that in many states the number one problem is the elimination of small high schools by district reorganization."[1] He further refined his statement by adding, "It is safe to assume that 9,000 is the maximum number of high schools needed in the United States at this time."[2]

Despite the apparent acceptance of the effect of school size on the cost-educational program relationship, most states continue to encourage small schools through special allowances. These are usually provided in minimum foundation programs without reference to whether such schools are justified on the basis of population. If a school district has only 100 high school students, then it really faces the choice of having four or five teachers trying to teach many different subjects or of hiring 12 teachers--enough, that is, to cover the minimum fields of the high school curriculum. The first alternative means low--quality instruction: the second means a very high ratio of teachers to students--and costs of about $1200 per student per year.[3]

Part of the failure of states to move more rapidly into school centers of more desirable size may be the lack of documentation of school cost and program. According to Chisholm and Cushman, "Very few

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[1]Conant, op. cit., p. 38.

[2]Ibid., p. 81.

[3]American Association of School Administrators, Education Is Good Business (Washington, D. C.: American Association of School Administrators, 1966), p. 37.

studies have attempted to show the complex relationship between size of a school district on the one hand and both adequacy of program and per pupil cost on the other hand."[1] No known study of the relationship of school district size to per pupil expenditure has been conducted in the State of Oklahoma including reports from the Oklahoma State Department of Education.

The insistent demands of citizens for increasing quantity and quality in the schools give some indication of the task ahead for the public schools. It would seem favorable for an analysis of the size-expenditure inter-relationship between program, personnel, and finance in the public schools of the State of Oklahoma.

Statement of the Problem

The problem of this study is to identify certain relationships that exist between size of school district and per pupil expenditure when selected variables such as class size, pupil-teacher ratio, teacher preparation, assignment of teachers, number of courses offered, and number of subject areas are considered.

This necessitates the consideration of certain problemmatic questions.

(1) Is there an apparent relationship between size of school district and per pupil expenditure such that it affects the quality of the school program in terms of class size and pupil-teacher ratio?

(2) Is there an apparent relationship between size of school

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[1]Leslie L. Chisholm and M. L. Cushman, "Reorganization of Administrative Units," Problems and Issues in School Finance, Edited by R. L. Johns and E. L. Morphet, Teachers College, Columbia University (New York: Bureau of Publications, 1952), p. 82.

district and per pupil expenditure such that it affects the quality of the school program in terms of professional background and utilization of school personnel?

(3) Is there an apparent relationship between size of school district and per pupil expenditure such that it affects the quality of the school program in terms of the number of courses offered and number of subject areas?

Limitations

This was a status study of the public schools in the State of Oklahoma with these limitations:

(1) Only data for the 1964-65 school year were used.

(2) Expenditure per pupil was determined from the current operational expenditures of the schools studied.

(3) Only school districts filing reports with the State Board of Education were studied.

(4) Only those schools maintaining at least grades 1 to 12 were studied.

(5) No attempt was made to determine statistical significance.

Procedure

Data for this study were obtained from the records on file in the State Department of Education. The basic sources of information were: (1) school accreditation reports, (2) teacher certification records, and (3) annual school district financial reports.

The procedure followed the steps listed below.

(1) Calculation of basic data:

1. the size of school district was obtained from the average total daily attendance reported on the annual statistical report,

2. total expenditure for the year was taken from current operational expenditures as filed with the State Board of Education,

3. tabulation was made to determine the scope of each of the selected variables,

4. per pupil expenditure was determined by dividing the amount spent for current operational expenditures by the average total daily attendance,

5. secondary school organizational patterns grades 9-12 and 10-12 were used because the data existed in this form,

6. data were recorded on punch cards for machine processing.

(2) Grouping of the schools and per pupil expenditure:

The schools were grouped in ten size categories according to average total daily attendance. Size categories are as follows: 0-150, 151-300, 601-1200, 1201-2000, 2001-4000, 4001-6000, 6001-12000, 12001-25000, and 25001 and up. School district size categories are based on those used in the statistical section of the January 1966 edition of School Management, page 142 with attitional sizes of 0-150 and 151-300. These sizes were used as 50.3 per cent of the school districts in the State of Oklahoma have an average total daily attendance of 300 or fewer pupils. Next the schools were classified according to per pupil expenditure beginning with $250 with $50 intervals up to $700 and $700 and up in the same category.

(3) Treatment of data:

Basic data pertaining to each of the selected variables included in this study were calculated for schools in categories of comparable average total daily attendance and per pupil expenditure. From these descriptive statistics were calculated for all schools within comparable average daily attendance and per pupil expenditure categories. Data for this study were collected from all school districts reporting to

the Oklahoma State Board of Education for the 1964-65 school year and having programs through grade twelve.

Organization of the Study

This dissertation is organized in four chapters. The prospectus becomes the introduction, or Chapter I. Chapter II consists of a review of related literature. Chapter III is a presentation of the data and Chapter IV presents the summary, conclusions, and recommendations for further research.

CHAPTER II

REVIEW OF RELATED LITERATURE

A review of related literature reveals few studies that directly relate school size to per pupil cost, in determining measures of school quality. Numerous individuals and professional organizations have published studies that have direct implication on school size and per pupil cost.

This chapter presents only research studies pertinent to this study. Major emphasis was focused upon those approaches used to explore the relationship of school size to per pupil expenditure, studies concerning recommended size of secondary schools, and statewide studies.

Studies Exploring the Relationship of Size and Cost

Using reports of the U. S. Office of Education as a source of his information, Ayres[1], in 1920, reported on a study of school expenditures and certain provisions for education in the forty-eight states during the period 1871-1918. Ten educational factors on which data were comparable for each state were studied. From this information, an educational index number was computed for each state. The

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[1]Leonard P. Ayres, An Index Number for State School System (New York: Russell Sage Foundation, 1920), p. 54.

index, when calculated for a forty-seven year span, revealed a close relationship between levels of school expenditures and educational factors such as professional preparation of teachers, class size, pupil-teacher ratio, and school attendance. As Ayres states it:

> "The figures for school expenditures do have a close relationship to those which show the amount of education given and tell how many are in high school, and that they are important indicators of the efficiency of the system and the quality of education the children receive."

Norton[1] reported in a study in 1926 of the ability of the forty-eight states to support education. He found that the financially able states spent more money per pupil, teachers were paid more, more money was expended on non-salary items, such as supplies and equipment, and that the school plant was superior as a result of these expenditures.

In these states there were also a longer term, a greater number of days attended per year by pupils, more high school education, and better prepared teachers. There was, on the other hand, a higher percentage of illiteracy in the states with low school expenditures, and also a smaller circulation of magazines. Norton, concluded that the general level of educational attainment of the people was significantly higher in the rich states which were spending more for education than the poor states with low school expenditures.

Mort reported a 1933 study in New Jersey[2] and a 1934 study

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[1]John K. Norton, Ability of the 48 States to Support Education (Washington, D. C.: National Education Association, 1926).

[2]Paul R. Mort, Director, Reconstruction of the Systems of Public Support in the State of New Jersey (Report of the Governor's School Survey Commission, Vol. II, Trenton: Governor's School Survey Company, 1933), pp. 26-29.

in Maine[1] concerning the relationship of cost and quality in education. These studies were concerned largely with the relationship of school cost to teaching personnel and other facilities. Mort found that the high expenditure schools in these states generally made more adequate provision for text books, instructional supplies, and libraries. They also employed better trained professional workers and maintained smaller classes. The low expenditure schools employed fewer well trained teachers, gave them little supervision, and provided inadequate supplies of books and other instructional materials.

A study of two hundred and forty-nine Kentucky school systems was reported by Ferrell[2] in 1936. He found a strong relationship between quality and expenditure, when quality was defined as the attracting and holding power of the school, the training and experience of the teachers, pupil-teacher ratio, and the length of the school term. Ferrell concluded that there is a definite relationship between total current expenditure and educational efficiency.

In 1938, Grace and Moe[3] reported on one section of an Inquiry into the Character and Cost of Public Education in the State of New York, instituted by the Board of Regents. Forty-three school systems

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[1]Paul R. Mort, Financing the Public Schools of Maine (Report of a Survey of State and Local Support of Public Schools, Augusta: Maine School Finance Commission, 1934), pp. 64-97.

[2]Thomas Ferrell, Relation Between Current Expenditures and Certain Measures of Educational Efficiency in Kentucky County and Grade School Systems, George Peabody College for Teachers, Contributions to Education No. 216 (Richmond, Kentucky: the Author, Eastern State Teachers College, 1937), p. 114.

[3]A. G. Grace, and G. A. Moe, State Aid and School Cost, Report of the Regents Inquiry (New York: McGraw Hill Co., 1938), pp. 324-29.

were ranked on a five point scale after visitation and testing of pupils. The inquiry showed that generally those school districts having high cost showed inferior results. The study as a whole revealed considerable correspondence between cost and quality becoming more significant when the factor of sparse population was eliminated. It was found that no low cost districts generated distinctly superior educational returns, and similarly high educational efficiency is not achieved without high expenditures.

In 1941, the Commission on Legal Structure of Rhode Island Public Education[1] studied the educational returns for money spent on schools. The commission used an extensive questionnaire (The Mort-Cornell "Guide for Self Appraisal of School Systems") filled out by field workers on the basis of interviews and observation in a large sampling of schools and obtained information on the degree to which newer practices and improvements, common for better school systems, were found in Rhode Island. These schools were divided into three groups on the basis of expenditure per pupil, improved practices found to be most common in the high expenditure group and least common in the low expenditure group. This study recognized that a number of factors, other than expenditure, were involved in producing an alert, modern school system. It concluded, however, that "whatever the other conditions may be, they are not sufficiently strong to offset the lifting effect of the expenditures."[2]

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[1]Commission on the Legal Structure of Rhode Island Public Education, "Schools for OUR Children," Report of a Survey of the Structure and Operation of the Rhode Island Public School System with emphasis on Public School Finance, Vol. 1 (Providence: The Commission, 1941), p. 98.

[2]Ibid., p. 58.

The first complete inventory of the levels of school expenditure for all school districts in the United States were reported in 1946, by Norton and Lawler.[1] For this study, data were collected from the State Department of Education in each of the then forty-eight states. A classroom unit was utilized to express expenditures. Expenditure per classroom unit included all current expenses --- teacher salaries, books, instructional supplies, and utilities --- but did not include capital outlay or transportation. Graphic charts were used to illustrate the wide variations in the level of expenditure that existed among the states. The level of state expenditures, according to geographic areas, was identified as follows:

> The seven highest expenditure states were divided between the northeast and the far west...at the other end of the scale, the bottom sixteen states were in the south except Maine, South Dakota, and North Dakota.

The same report pointed out past variations in expenditures among local school systems. The poorest financed systems were spending less than $100 per classroom unit, while the most adequate school systems were spending $6,000 or more per classroom unit, a 60 to 1 difference.[2]

Your School District[3], a 1948 study conducted by the National Commission on School District Reorganization and sponsored by the Department of Rural Education of the National Education Association,

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[1]John K. Norton and Eugene S. Lawler, Unfinished Business in American Education (Washington, D. C.: American Council on Education, 1946), p. 12.

[2]Ibid., p. 4.

[3]Howard A. Dawson, Your School District, The Report of the National Commission on School District Reorganization (Washington, D. C.: National Education Association, Department of Rural Education, 1948), p. 89.

reported findings concerning the status of local school districts. In regard to size of school and cost per pupil, the report stated that:

> "Size of school and the cost of education are directly related. In general, the smaller the school the higher the cost per pupil, and the smaller the administrative unit the smaller the school maintained. Thus, the organization of administrative units is closely related to per pupil cost of education."

In 1948, McLure[1] reported a study of the cost-quality relation in more than 100 Mississippi schools. The findings emphasized that low expenditures resulted in serious losses in educational returns. McLure concluded:

> "The kind of education that children get is closely related to the amount of money spent on them. Where schools spend more money on their students there is a corresponding improvement in conditions throughout the school and community."

In dealing with factors other than expenditure level which result in high educational returns for money spent, McLure[2] concluded:

> "Perhaps most important of all, next to expenditure level, there must be in the minds of laymen and educator the picture of what constitutes good education."

In 1948, the Council of State Governments initiated the first national study of education to be conducted by an agency comprised of representatives of each state. Under the direction of Chase and Morphet[3], an analysis was made of the organization and administration, and financing of the public school systems in the then forty-eight states.

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[1]William P. McLure, Let Us Pay for the Kind of Education We Need, Report of a Study of State and Local Support of Mississippi Schools, University of Mississippi, 1948, p. 3.

[2]Ibid., p. 52.

[3]Frances S. Chase and Edgar F. Morphet, The Forty-Eight School System (Chicago: The Council of State Government, 1949), pp. 8-9.

Evidence presented in this study prompted this response, "unfortunately, there are major instructional defects in educational organization and administration which intensify the ill effects of the lack of revenue, the shortage of teachers, and other adverse factors." One of the defects was identified as a small and inefficient school district. In the discussion of unsatisfactory small school districts the statement was made:

> "The small number of pupils in thousands of these local units, tend to increase the cost of education out of proportion to its quality and contributes to the difficulty of maintaining competent leadership and instructional personnel."

Chase and Morphet maintained that reducing the variations in educational opportunity was a responsibility of the state. However, they found that in many states the factual data necessary for wise decision making was not available. This finding is pointed out in the following statement:

> "Underlying and abetting all those weaknesses is a lack of facts to guide those who make state policy. . . . State responsibility for education cannot be exercised properly unless facts are available about local provisions for education throughout the state and the effect of state policy and practices upon these provisions."

Woollatt[1] in 1949 concluded:

> "Just as we have seen that there is a general increase in the quality of schools as cost increases, so it is evident that there is a general increase in skills, knowledge fields, and special aptitudes, and behavior patterns. . . . Spending more to get more is established as an axiom in preparing school budgets.

A refined instrument for computing per pupil expenditures was

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[1]Woollatt, op. cit., p. 65.

utilized in the study published in 1953 by Hutchins and Munse.[1] Current expenditures were used to calculate the average amount of spending per classroom unit. However, transportation costs and tuition paid to other districts --- two factors frequently included in calculating pupil cost in earlier studies --- were not included in these calculations. Data for this study were compiled for the 1949-50 school year and represented 63,277 school districts in the continental United States and the 125 in the outlying areas of the United States. Current expenditures per classroom unit were graphically presented for each of the forty-eight states and outlying areas. This study was significant because it was the third conducted at ten year intervals which analyzed comparable data.

In 1953, the U. S. Office of Education made a study of per pupil expenditure according to size of school district. The findings reveal that per pupil cost were highest in the systems with the smallest average daily attendance and largest average daily attendance. School systems with average daily attendance ranging from 50-99 pupils spent the same amount per pupil as school systems with 7,000 to 16,000 pupils.[2] Very likely they provide a far less adequate program. Table 1 presents the findings in this study relating size of school system to per pupil expenditure.

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[1]Clayton D. Hutchins and Albert R. Munse, Expenditures for Education at the Midcentury, U. S. Office of Education, Misc. No. 18 (Washington: Government Printing Office, 1953).

[2]Clayton D. Hutchins and Albert R. Munse, "Expenditures for Education in Various Sizes of School Districts." School Life, 35:128, May, 1953.

TABLE 1

EXPENDITURE PER PUPIL AMONG SCHOOL DISTRICTS OF VARIOUS SIZES, 1949-50

Size of Administrative unit in terms of average daily attendance	Average daily attendance as percentage of total	Expenditure per pupil in average daily attendance
40,000 and up	15.38	$239.98
16,000 - 39,999	8.16	201.68
7,000 - 15,999	11.16	183.42
3,000 - 6,999	17.08	164.52
1,500 - 2,999	12.59	168.47
800 - 1,599	10.43	174.83
400 - 799	10.08	173.49
200 - 399	6.80	174.14
100 - 199	3.51	179.06
50 - 99	1.81	181.15
20 - 49	1.69	168.10
1 - 19	1.31	225.02
Continental U. S. Average	100%	186.06

Source: Clayton D. Hutchins and Albert R. Munse, "Expenditure For Education in Various Sizes of School Districts," School Life, 35: 125, May, 1953.

In 1954, Griffis[1] studied school facilities and procedures at three cost levels in forty-four school systems of southeast Texas. These school systems were rated by direct observation by 100 modern educational practices. This study reported that the scope of educational program and services consistently increased with increased expenditure. Griffis concluded:

Higher costs level schools . . . attract and retain more

[1]James T. Griffis, Educational Production at Three Cost Levels (Houston, Texas: Gulf School Research Development Association, 1955). p. 23.

> skillful and better prepared teachers . . . give increased attention to needs of each individual student . . . makes use of a greater abundance of supplies and teaching aids, and also of better quality. They usually have more functionally designed and better equipped school buildings and facilities than other schools.

In 1954, Smith[1] reported the cost-quality relationship in central rural schools in New York State. These schools had been formed by a consolidation of several small districts. Smith used the findings of systematic observation of 229 central rural school systems by a group of trained observers. This study sought to find the relation to school quality of these five characteristics of each school system: quality of administration, size of school system, type of community, geographic location, and level of expenditure. Smith found that the level of school expenditure was more closely related to school quality than any of the other four school characteristics.

In 1958, Ross[2] published an analysis of more than 150 research studies concerned with the improvement of schools. The studies he reviews repeatedly arrived at conclusions similar to the following:

> The most powerful of all factors which influence the quality of the schools is the level of financial support.
>
> A good educational program is not guaranteed by high expenditure alone any more than a good crop of corn is guaranteed by adequate rainfall alone. But good conditions are no more likely to occur under poor expenditure conditions

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[1]Stanley V. Smith, Quality of Education Related to Certain Social and Administrative Characteristics of Well-Financed Rural School Districts, Doctor's Thesis (New York: Teachers College Columbia University, 1954), p. 225.

[2]Donald H. Ross, Editor, Administration for Adaptability, Revised edition (New York: Metropolitan School Study Council, Teachers College Columbia University), p. 750.

than a good crop of corn under inadequate moisture conditions, regardless of the other desirable factors.

Not only are the better practices more widely diffused among the higher expenditure school systems, but there is an emergence of certain additional factors of effective education not found in the middle and low expenditure level schools.

These studies bear out the conclusions reached from studies from other states that there is a definite relationship between expenditure level and the character of the educational program.

Better supported schools constitute a large part of education's research laboratory and testing ground.

We may say in high expenditure school systems we expect to find improvement in the teaching of basic skills as we go from high expenditure to very high expenditure.

School size and per pupil expenditure were included as criteria in Project Talent[1] -- a nation wide, comprehensive study of secondary education conducted in 1962, by the University of Pittsburgh and financed by a research grant from the U. S. Office of Education. In this study, a stratified sampling procedure was used to collect data from 1,353 secondary schools represented all areas of the United States. Well over 1,000 items of information about each of the schools were obtained by the questionnaire. Factors such as student achievement, school size, expenditure levels, class size, teachers salaries, community characteristics, and college attendance were analyzed. A conclusion from the project was:

The Project Talent data to date indicated that four of the most important treatment factors closely and uniquely associated with school outcomes such as achievement and going to college and

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[1]John C. Flanagan, Project Talent: Studies of the American High School, Cooperative Research Project No. 226 (Pittsburgh, Pennsylvania: University of Pittsburgh, Project Talent Office, 1962), Chapter 11, p. 10.

staying in school are: teachers salaries, teacher experience, number of books in the school library, and per pupil expenditures.

Studies Concerned With Secondary School Sizes In Relation to Per Pupil Cost

In 1931, S. P. Nannings[1] studied this question: "At what size may California high schools function at lowest cost and at the same time provide educational opportunities that are in agreement with current theory of secondary education?" The results of this study showed that per pupil cost declined rapidly until an enrollment of approximately 500 pupils was reached. Thereafter, a plateau was maintained until enrollment reached about 1400 pupils.

Little[2], in a 1934 doctoral dissertation at Teachers College, Columbia University surveyed 223 counties in ten states. He found that if the same type educational program provided in the schools surveyed had been provided in consolidated schools of larger size a decreased per pupil expenditure would have been recorded in 213 of 223 counties. He concluded that after a secondary school reached an enrollment of 726 pupils, future increases in enrollment would not materially affect the per pupil cost if comparable educational programs were provided.

In 1944, the Virginia Education Commission[3] was appointed by

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[1]S. P. Nannings, "Cost of Offerings of California High Schools in Relation to Size," Journal of Educational Research, 24:356, December 1931.

[2]Harry A. Little, Potential Economics in Reorganization of School Attendance Areas, Contributions to Education No. 628 (New York: Bureau of Publications, Teachers College, Columbia University, 1934), pp. 23-65.

[3]The Virginia Public School System, Report of the Virginia Education Commission, (Richmond, Virginia: Division of Purchase and Printing, 1944), pp. 125-130.

the General Assembly to conduct a comprehensive study of the Virginia Public Schools. Persons representing a cross-section of the population were selected to serve on this Commission. One of the initial steps of this Commission was to outline the minimum educational program considered essential for all youth. Based on a minimum of 18 teachers and a 20 to 1 pupil-teacher ratio, the desired minimum size high school was set at 360 pupils. Implementation of this program into all schools would have necessitated a vast difference in per pupil cost. For example, the Commission calculated a per pupil cost of $420 for a school with an enrollment of 75 pupils. In contrast a school with a minimum desired size of 360 pupils was calculated to cost only $100 per pupil, a difference of $320 per pupil. At the time of this study, only 20 of the 424 public schools had an enrollment of 360 or more pupils. The Commission recommended a reduction in the number of secondary schools from 424 to 203. Sixteen years later, in 1960 the Report of the White House Conference on Children and Youth[1] reported on the inequalities of educational opportunity in different states. The extent of Virginia's action on the 1944 recommendation referred to above was emphasized by this statement, "Only 65 of Virginia's 419 high schools had as many as 100 graduates."

The Georgia General Assembly[2], in 1947, financed a comprehensive

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[1]The States Report on Children and Youth, A Report of the Golden Anniversary, White House Conference on Children and Youth (Washington: Government Printing Office, 1960), p. 128.

[2]Georgia Commission on Education, A Survey of Public Education of Less Than College Grade in Georgia, A Report to the General Assembly of Georgia (Atlanta, Georgia: State Department of Education, State Board of Education, 1947), p. 238.

study of the Georgia schools. Per pupil costs for instruction was computed from average daily attendance of 463 senior high schools in Georgia. Findings of this showed that in 1943-44, the typical county system in Georgia spent $52.36 for each white pupil in average daily attendance compared to $22.90 for each negro pupil. Table 2 gives the median cost per pupil in average daily attendance, the range in cost, and the number of schools in Georgia according to school enrollment sizes.

TABLE 2

THE ENROLLMENTS AND COSTS PER PUPIL IN 463 SENIOR HIGH SCHOOLS OF GEORGIA, 1943-44

Enrollment	Number of High Schools	Median Cost per pupil in average daily attendance	Range in cost
Less than 40	32	$ 91.03	$11.12 to 210.61
40 - 59	66	106.67	38.55 to 232.50
60 - 99	135	88.95	34.69 to 210.07
100 - 199	146	77.81	39.15 to 174.82
200 - 299	52	70.42	38.35 to 111.00
300 - 499	19	58.58	34.78 to 102.09
500 or more	13	82.35	47.35 to 106.83

Source: Georgia Commission on Education, A Survey of Public Education of Less than College Grade in Georgia, A Report to the General Assembly of Georgia (Atlanta, Georgia: State Department of Education, State Board of Education, 1947), p. 238.

While the small schools had the highest median cost per pupil

in average daily attendance, the large schools did not have the lowest median cost. The Commission concluded that an enrollment of 300 should be adopted as a state wide minimum size and 1500 pupils as a desirable maximum size for a six year secondary school.[1] It is significant that this same trend was later found in Hummel's regional study.[2]

In 1960, Smith[3] utilized records on file at the Ohio State Department of Education for a study of three and four year secondary schools in Ohio. Twenty-one factors related to teachers, administrators, institutions, pupils, and costs were included in the study. The findings showed that in schools where enrollments ranged from fewer than 200 to 400 pupils, a premium price was being paid for a sub-standard program, and in schools with enrollments of more than 1200 pupils educational disadvantages were inescapable.

Hanson[4], in 1963, used a theoretical construct of "economy of scale" to study the relationship between district size and unit costs. The construct stated that as a small enterprize becomes larger unit costs decline. This construct further states that there is some optimum size for all enterprizes, and that if growth continues beyond this point a "diseconomy of scale" arises and unit costs begin to rise. Hanson's

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[1]Ibid., p. 238.

[2]Everett Hummel, "Studies of Enrollment of Western Secondary Schools in Relation to Per-Capita Costs and Academic States," (Portland, Oregon: Oregon State College, 1963).

[3]Clifford B. Smith, "A Study of Optimum Size of Secondary Schools," (unpublished Doctor's dissertation, Ohio State University, Columbus, 1960).

[4]Nels William Hanson, Economy of Scale in Education: An Analysis of the Relationship Between District Size and Unit Costs in the Public Schools (unpublished Doctor's dissertation, Stanford University, 1963), p. 152.

study revealed that: eight of the nine states and the ten state sample showed evidence of economies of scale through a large part of the size continum; six states and the ten state sample show diseconomies of scale when district size exceeds the optimum; and the optimum size was found to be in excess of 20,000 ADA in all states, and the median for the optimum is 50,000 ADA.

Hummel[1], in 1963, with data collected from the State Departments of Education in nine western states found that the highest per pupil cost did not always equate with the smallest school. An analysis of per pupil cost and size of school in approximately 700 secondary schools reveal that the smallest schools were, in general, the most expensive, but, schools with the largest enrollment did not always have the lowest per pupil cost. In Arizona, Idaho, and Montana the highest per pupil costs were in small schools but not in the smallest schools. In Washington, Oregon, and California the highest per pupil costs were in schools enrolling fewer than 200 pupils. In Alaska, Utah, and Nevada the highest per pupil costs were in the schools with the lowest enrollment. With the exception of Nevada, the lowest per pupil cost seemed to prevail near the medium to the medium-large size secondary schools in each state.

The Research Division of the National Education Association[2], in 1963, summarized the findings of an extensive study of size, cost, and educational opportunities in secondary schools of New York State. In general, it was found that small schools in comparison with large

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[1]Hummel, op. cit., p. 26.

[2]National Education Association, Research Division, "Efficient School Size," Research News, 1963-65, February 1963.

schools provided fewer educational advantages in area such as course offerings, sequence of course offerings, activities, services, book volumes in the library, percentage of teachers with master's degrees or beyond at a portionately high cost. The most frequent mentioned size interval at which the greatest economy fell ranged from 688 pupils to 757 pupils.

Morris[1], in 1964, related school size to per pupil expenditure and derived per pupil cost from salaries paid to professional personnel. This study included 3,727 public secondary schools in nine southern states. Size of school varied greatly. Morris concluded that a direct relationship existed between size and per pupil expenditure. In schools enrolling fewer than 200 pupils a rapid increase in per pupil expenditure was noted as enrollment decreased. In schools enrolling 200 to 600 pupils the range in pupil cost tended to decrease as enrollment increased. Expenditures tended to level off as enrollment exceeded 600 pupils. When all factors were considered schools enrolling fewer than 200 pupils were paying a premium price for an inferior program. These small schools were generally characterized by: meager curriculum offerings, poorly prepared teachers, many small classes, and many teachers teaching out of their areas of specification.

Table 3 summarizes the minimum sizes recommended for secondary schools cited in these selected studies.

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[1]Harold Jackson Morris, Relationship of School Size to Per Pupil Expenditure in Secondary Schools of Nine Southern States (unpublished Doctor's dissertation, George Peabody College for Teachers, Nashville, 1964), pp. 90-91, 93.

TABLE 3

MINIMUM SIZES RECOMMENDED FOR SECONDARY SCHOOLS IN SELECTED STUDIES

Source	Date	Number of pupils	
		Desirable size	Absolute minimum size
Virginia Commission on Education	1944	360	150
Georgia Commission on Education	1947	---	300
National Commission on School District Reorganization	1948	300	300
Woodham	1951	500	300
Broach	1954	---	300
Brown	1956	400	---
Conant	1959	---	100[a]
DeGood	1960	---	200
Smith	1960	400	200
Morris	1964	---	200

Source: Adapted from studies reviewed in this study, chapters one and two.

[a]The graduation class size only. The minimum size would be determined by input of students at lower grades to produce a graduating class size of 100 or more pupils.

State Wide Studies

The relationship between size of school and scope of educational offering has been studied on a state wide level by numerous individuals and groups. Seyfert[1], in 1937, in his study noted that class size, number of subjects taught by the average teacher, and the number of different teachers from which the average student received instruction were directly related to size.

Brown[2], in 1946, related school size to five factors: extent of curricular offering, extent of pupil participation in extra-curricular activities, special service personnel, current expense costs, and the ideal size of school as suggested by school administrators and college professors. This study revealed that small schools, in general, had the following characteristics: relatively inexperienced teachers, teachers instructing in several subject areas, small classes, and few library books.

Woodham[3], in 1951, studied 290 of 305 secondary schools in the State of Florida. Per pupil cost was calculated from instructional salaries. The number of subject offerings and special services were converted to a single index number and related to school size and per

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[1]Warren C. Seyfert, School Size and School Efficiency, Harvard Bulletins in Education, No. 19 (Cambridge: Harvard University Press, 1937).

[2]William E. Brown, "High School Size: Its Relationship to Selected Educational and Cost Factors," (unpublished Doctor's dissertation, University of Southern California, Los Angeles, 1956).

[3]William J. Woodham, "The Relationship Between Size of Secondary Schools, the Per-pupil Cost, and The Breadth of Educational Opportunity," (unpublished Doctor's dissertation, University of Florida, Gainesville, 1951), p. 171.

pupil cost. The results indicated that:

> The relationship between size and cost per pupil is inverse; i.e., the cost per pupil tends to decline as the size of school increases . . . When both cost per pupil and breadth of educational opportunities are related to a single cost measure, the cost per pupil unit of educational opportunity, a highly significantly negative relationship to size of school was found. The cost of school program is influenced to a much greater extent by the size of school other than measures of unit cost.

In 1954, Broasch[1], analyzed curricular offerings in the Arkansas public secondary schools. His study revealed that the curriculum in the majority of the small high schools was limited to college preparatory courses, except for vocational agriculture, vocational home economics, and limited business courses. He concluded that a minimum secondary enrollment should be 300 pupils if a balanced program is to be provided at a reasonable cost.

A comprehensive study of public education in the State of Louisiana was made in 1954 by the Division of Surveys and Field Services of the George Peabody College for Teachers.[2] In its evaluation of school size and educational program relationship, the Survey staff concluded:

> "More than 13 per cent of all high school youth in Louisiana are attending one of the 207 schools which do not enroll as many as 100 students. These 207 schools . . . are small indeed . . . have great difficulty providing the diversity of instructional opportunity which is needed to meet the needs and interest of the students they are attempting to serve."

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[1]Billy W. Broasch, "An Appraisal of the Curricular Offerings in the Secondary Schools of Arkansas," (unpublished Doctor's dissertation, University of Arkansas, Fayetteville, 1954).

[2]Division of Surveys and Field Services, Public Education in Louisiana, A Survey Report (Nashville, Tennessee: Division of Surveys and Field Services, George Peabody College for Teachers, 1954).

Barr, Church, and McGehey[1], in 1956, identified the number of subjects available in different size schools in the State of Texas. A high school with 200 pupils offered 11 subjects, a high school with 201-500 pupils had 18 subjects, and those schools with over 500 pupils offered 27 subjects.

In 1960, DeGood[2], identified differences among high schools in 103 Ohio school districts. In small schools he found that teachers' salaries were lower, teachers were less likely to hold graduate degrees, and the taxable wealth per pupil in the school district was less.

Collingsworth[3], in 1961, compared the differences between school size and the following teacher qualifications in the State of Arkansas: number of teachers holding advanced degrees, number of teachers holding emergency certificates, number of teachers instructing outside their major field of preparation, and average total years of teaching experience. In this study a positive relationship in favor of the larger school was found to exist between the size of the high school and each of the teacher qualification factors.

Summary

These research studies presented the complex relationship of

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[1]W. Monfort Barr, Harold H. Church, and Marion A. McGehey, Trends in School District Reorganization, Bulletin of the School of Education, XXXII, No. 6 (Bloomington, Indiana: Indiana University, 1956).

[2]K. D. DeGood, "Profile of the Small High School," Educational Leadership, 18:170-172, December 1960.

[3]Jack B. Collingsworth, "An Analysis of Relationships of Size of Arkansas Schools to Selected Qualifications of Teachers," (unpublished Doctor's dissertation, University of Arkansas, Fayetteville, 1961).

size of school district, per pupil expenditure, and various measures of school quality. Several factors such as: per pupil cost, size of school district, preparation of teachers, assignment of teachers, salaries paid to professional employees, class size, pupil-teacher ratio, course offerings, length of school term, and quality of administration were used to determine quality in a school program.

To ascertain the relationship of program, personnel, and finance these studies indicated that seldom did superior educational returns or well trained personnel exist where the financial support was inadequate. These studies also indicated that size of school district was an important factor in a quality school program. The greatest obstacle to quality educational programs was the small and inefficient school districts. The per pupil expenditure in these small school districts was out of proportion to the program offered.

CHAPTER III

PRESENTATION OF DATA

The problem of this study was to identify certain relationships between size of school district and per pupil expenditure in the public schools of the State of Oklahoma. This relationship was tested in terms of six selected variables. As a first step, the schools were tabulated according to size of school district and per pupil expenditure. The relationship between size of school district and per pupil expenditure was then tested by noting the change in the selected variables. The change was noted as the per pupil expenditure remained constant and the size of school increased, and as the size of school remained constant and the size of school increased.

Collection of Data

Data for this study were collected from the official records on file with the Oklahoma State Department of Education. In addition to data relating to school size and per pupil expenditure, information concerning the following selected variables were secured:

1. Class size
2. Pupil-teacher ratio
3. Level of preparation of teacher

4. Number of teachers assigned in one area, two areas, and three or more areas in secondary schools, grades 9-12 and secondary schools, grades 10-12.

5. Number of courses offered in secondary schools, grades 9-12 and secondary schools, grades 10-12.

6. Number of subject areas in which subjects were offered in secondary schools, grades 9-12 and secondary schools, grades 10-12.

Size of School District and Per Pupil Expenditure

The 537 public school districts of the State of Oklahoma maintaining grades 1-12 were included in this study. In 1964-65, these school districts had an average daily attendance of 509,495.41 pupils, employed 23,596 certificated personnel, and expended $171,573,570.00 for current expenses purposes.

As shown in Table 4, schools vary greatly in size. The smallest school district had a total average daily attendance of 34 and the largest school district had a total average daily attendance of 70,915 pupils. Two per cent of the total average daily attendance was in the 92 school districts which had an average daily attendance of 150 or fewer pupils. Seventy-five per cent of the school districts had an average total daily attendance of 600 or fewer pupils. This represented 20 per cent of the total average daily attendance for the entire state. Thus, the average total daily attendance of 25 per cent of the school districts comprised 80 per cent of the total average daily attendance.

Table 4 shows the distribution of school districts according to size and per pupil expenditure. Even a cursory examination of the data revealed a trend toward lower per pupil expenditure as size increased. Although the expenditure ranged from a low of $262 per pupil to a high

TABLE 4

Number of Public School Districts Maintaining at Least Grades 1-12 in the State of Oklahoma by Size of School District and Per Pupil Expenditure, 1964-65

Size of School District	Level of Expenditure										
	$250-299	$300-349	$350-399	$400-449	$450-499	$500-549	$550-599	$600-649	$650-699	$700-Up	Total
0- 150		1	10	17	15	8	9	3	4	25	92
151- 300	3	19	57	49	23	11	6	2	3	5	178
301- 600	4	38	52	19	11	2	2	1	1	1	131
601- 1,200	9	43	12	4	1	1		1		1	72
1,201- 2,000	10	17	2	1							30
2,001- 4,000	8	11									19
4,001- 6,000	3	2									5
6,001-12,000	2	4									6
12,001-25,000		2									2
25,001-or more		2									2
Total	39	139	133	90	50	22	17	7	8	32	537

of $1942, 311 or 58 per cent of the school districts were spending less than $400 per pupil while the state average was $336.75. One hundred eighty or 66.6 per cent of the school districts with less than 300 pupils spent in excess of $400 per pupil as 240 or 84 per cent of the school districts with more than 300 pupils spent less than $400 per pupil. Generally speaking, it was apparent that the smaller the school district the greater the range of expenditure until average daily attendance reached 300 or more pupils. The school districts with an average total daily attendance of more than 300 pupils were clustered in the lower expenditure levels.

Educational cost figures lack significant meaning unless some attempt is made to determine what was purchased in the way of a quality school program. As stated in Chapter I, quality in a school program is difficult to define and measure. With the assumption that certain educational factors are indicative of quality in an educational program, the selected variables chosen relate specifically to class size, pupil-teacher ratio, level of preparation of teacher, number of subject areas a teacher is assigned, the number of courses offered, and the number of subject areas in which courses are offered. The relationship between size and per pupil expenditure was tested by noting the changes in selected instructional factors as the per pupil expenditure remained constant and the size of school district increases, and as size is held constant and per pupil expenditure increases.

Teacher Load Factors

The American public schools exist for the purpose of providing

growth and development of the pupils who attend. It is with this perspective that programs are developed and teachers are employed. Factors which affect program will also affect pupils. It seemed relevant and appropriate to consider class size and pupil-teacher ratio in that these factors have implications for planning and evaluating the effectiveness of school programs.

Class Size

To determine the variations of class size, data were assembled for 19,856 classroom teachers. To determine average class size the number of classroom teachers was divided into the average total daily attendance, then, grouped by size of school district and per pupil expenditure. Data regarding class size are shown in Table 5.

A visual examination indicated no apparent difference in class size in expenditure levels up to the $450-499 category as the size of school district increased. There was an apparent increase in average class size in the $300-349 category in school districts with 25,001 or more pupils. The most apparent increase in class size came in the expenditure level of $700 and up.

When the size of school district is held constant, an apparent downward trend in class size is evident. As the level of expenditure increased, class size decreased in each of the ten expenditure categories; however, as the size of school district increased the downward trend in class size decreased.

Average class size by individual school districts ranged from 4.0 to 31.0. The concept that class size becomes more ideal as it

TABLE 5

Average Class Size in the Public Schools of the State of Oklahoma
by Size of School District and Per Pupil Expenditure, 1964-65

Size of School District	Level of Expenditure									
	$250-299	$300-349	$350-399	$400-499	$450-499	$500-549	$550-599	$600-649	$650-699	$700-Up
0- 150		23.7	22.6	20.7	19.2	15.6	15.8	15.4	13.4	12.1
151- 300	27.2	26.1	23.6	21.6	19.5	17.3	17.3	14.8	16.2	16.0
301- 600	27.5	24.9	23.1	20.6	20.2	22.3	19.0	19.8	16.6	24.9
601- 1,200	26.1	25.2	23.6	20.1	22.2	21.0		17.6		17.0
1,201- 2,000	26.4	25.2	21.6	21.4						
2,001- 4,000	27.3	25.6								
4,001- 6,000	26.2	24.1								
6,001-12,000	26.3	24.6								
12,001-25,000		22.4								
25,001-or more		31.0								

decreases may be open to question. The concept that a better educational program can be defined in terms of small classes is probably not the major criterion. Could it not be that the size of school district is really the determining factor?

Pupil-Teacher Ratio

The State of Oklahoma considers all certificated personnel as teachers when determining pupil-teacher ratio. This includes personnel such as teachers, administrators, guidance counselors, and school nurses. To determine pupil-teacher ratio data were assembled on 23,596 certificated personnel. Pupil-teacher ratio for each group of school districts with comparable size and per pupil expenditure was calculated by dividing the average total daily attendance by the number of certificated personnel. Data relating to pupil-teacher ratio may be found in Table 6.

In all ten expenditure levels an increase of two to eight pupils in pupil-teacher ratio was observed as size of school district increased. As expenditures increased pupil-teacher ratio decreased. In each size category as the expenditure levels increased there was a decrease in pupil-teacher ratio.

Level of Preparation of Teachers

Research studies cited in this study indicated that teacher preparation was a possible index of the quality of education, and schools with a higher per cent of teachers holding advanced degrees had a greater potential for quality education. Data regarding teacher preparation are shown in Table 7.

TABLE 6

Pupil-Teacher Ratio in the Public Schools of the State of Oklahoma by Size of School District and Per Pupil Expenditure, 1964-65

Size of School District	Level of Expenditure									
	$250-299	$300-349	$350-399	$400-449	$450-499	$500-549	$550-599	$600-649	$650-699	$700-Up
0- 150		16.9	17.1	16.0	13.4	12.4	12.3	18.8	10.8	9.2
151- 300	21.6	20.6	18.7	17.2	14.6	14.9	13.9	11.2	13.2	12.7
301- 600	22.5	20.9	19.4	17.6	17.1	17.1	16.1	14.7	14.7	19.2
601- 1,200	24.0	21.9	20.6	17.3	18.4	19.3		15.2		14.7
1,201- 2,000	23.2	22.2	18.2	19.6						
2,001- 4,000	23.7	21.9								
4,001- 6,000	22.9	21.4								
6,001-12,000	23.0	21.9								
12,001-25,000		24.8								
25,001-or more		24.5								

The level of professional preparation was obtained for each teacher included in this study. In order to relate these data to school districts of various size and per pupil expenditure, data were classified under the following headings: (1) master's degree or beyond; (2) bachelor's degree but less than a master's degree; and (3) less than a bachelor's degree. The number of teachers in the first two classifications was tabulated for every school district and a per cent was calculated for schools comparable in size and per pupil expenditure. The per cent of teachers in any one of the first two classifications include all teachers in schools similar in size and expenditure. The third classification was expressed in numbers instead of per cent because of the small number of non-degree personnel and calculated in the same manner as classification one and two.

Master's Degree and Beyond

Table 7 summarizes data for schools of comparable size and per pupil expenditure for teachers holding a master's degree or beyond. From the data the following general patterns can be observed: (1) there tends to be a higher per cent of teachers with a master's degree and beyond as size increases; (2) the higher the level of expenditure does not necessarily increase the number of teachers holding a master's degree or beyond. Thirty-seven per cent of the 23,596 teachers have master's degrees or beyond. The state average of 37 per cent is more nearly maintained in size categories 151-300, 301-600, 601-1200, 1201-2000, and 2001-4000 and level of expenditure not to exceed the $350-399 expenditure category. Size categories of 4,001 through 25,000 do not

TABLE 7

Per Cent of Teachers with a Master's Degree or Beyond in the Public Schools of the State of Oklahoma by Size of School District and Per Pupil Expenditure, 1964-65

Size of School District	Level of Expenditure									
	$250-299	$300-349	$350-399	$400-450	$450-499	$500-550	$550-599	$600-649	$650-699	$700-Up
0- 150		33.3	24.6	36.0	28.1	20.8	22.3	32.2	22.2	21.3
151- 300	35.9	42.5	34.9	32.4	28.7	25.4	53.3	24.2	27.0	29.2
301- 600	46.1	36.1	35.1	32.0	32.0	51.β	19.5	10.6	45.8	27.3
601- 1,200	29.4	42.6	42.5	34.5	20.0	28.5		14.0		38.7
1,201- 2,000	44.4	41.6	33.8	13.9						
2,001- 4,000	47.3	43.4								
4,001- 6,000	33.4	31.9								
6,001-12,000	27.6	44.1								
12,001-25,000		31.1								
25,001-or more		37.8								

Note: The above data include 8,670 teachers with master's degrees and 57 teachers with earned doctorates.

maintain the state average in $250-299 and $300-349 expenditure level with the exception of the 6,001-12,000 size category in the $300-349 expenditure level.

Bachelor's Degree

The bachelor's degree is generally considered a minimum requirement for employment in most public schools. Table 8 indicates that the school districts with the smallest size and highest per pupil expenditure had the highest per cent of teachers with the bachelor's degree but less than a master's degree. The 14,680 teachers holding only a bachelor's degree represented 62.2 per cent of the teachers in the state. A cursory examination of Table 8 indicates that as the size increases the per cent of teachers holding only the bachelor's degree decreases until the 4001-6000 category is reached, then, an increase is noted which exceeds the state average.

Non-Degree Certified Personnel

Table 9 shows data relating to certified personnel with less than a bachelor's degree. Data were expressed in number rather than per cent as .8 per cent of the total personnel were non-degree certified personnel. Thirty-one of the 189 certified non-degree personnel teach with the life teaching certificate. These teachers have 70 or more college hours, 69 are trades and vocational teachers and 89 are certified school nurses. Due to the small distribution a trend of school size and level of expenditure could not be identified. Eight of the 13 non-degree certified personnel in size categories 0-150 and 151-300 were teaching on old life certificates. This represented 25.8 per cent

TABLE 8

Per Cent of Teachers with a Bachelor's Degree but less than a Master's Degree in the Public Schools of the State of Oklahoma by Size of School District and Per Pupil Expenditure, 1964-65

Size of School District	Level of Expenditure									
	$250-299	$300-349	$350-399	$400-449	$450-499	$500-549	$550-599	$600-649	$650-699	$700-Up
0- 150		66.7	74.0	64.0	71.9	76.3	77.7	67.8	87.8	78.7
151- 300	64.1	57.5	64.8	67.2	71.3	71.5	26.7	75.8	70.8	69.5
301- 600	53.9	63.4	66.1	66.8	67.5	48.7	78.2	89.4	54.2	72.7
601- 1,200	70.6	57.0	57.5	63.6	80.0	67.3		86.0		61.3
1,201- 2,000	55.3	57.8	65.4	83.8						
2,001- 4,000	52.2	55.8								
4,001- 6,000	66.3	67.1								
6,001-12,000	71.8	55.7								
12,001-25,000		68.2								
25,001-or more		60.5								

Note: The above data include 14,680 teachers with a bachelor's degree.

TABLE 9

Number of Certified Non-Degree Personnel in the Public Schools of the State of Oklahoma by Size of School District and Per Pupil Expenditure, 1964-65

Size of School District	Level of Expenditure										
	$250-299	$300-349	$350-399	$400-449	$450-499	$500-549	$550-599	$600-649	$650-699	$700-Up	Total
0- 150			1			2					3
151- 300			1	2		5			1	1	10
301- 600		3	1	5	1		1				11
601- 1,200		7		3		2					12
1,201- 2,000	1	7	1	2							11
2,001- 4,000	6	11									17
4,001- 6,000	3	4									7
6,001-12,000	5	4									9
12,001-25,000		11									11
25,001-or more		98									98
Total	15	145	4	12	1	9	1		1	1	189

of the total non-degree certified personnel teaching in the entire state on a minimum 70-hour life certificate. These two size categories represented 50.3 per cent of the total school districts in the state and only 9.6 per cent of the total pupils in average daily attendance.

Teacher Assignment

A vital measure of school quality can be ascertained by the assignment of teachers. Research studies[1] indicate that teacher assignment according to major area of preparation is a major factor in a quality educational program.

In order to determine the per cent of teachers assigned in one area, two areas, and three or more areas, data were assembled on 9114 teachers teaching in secondary schools, grades 9-12 and grades 10-12. These data were machine reproduced from teacher personnel cards whose class schedules had been previously key punched. A computer was used to assimilate the number of areas a teacher is assigned in one machine card. The teachers in a school district were summary punched into one machine card giving the number of teachers in the school district assigned in one area, two areas, and three or more areas. The machine cards were sorted by size and expenditure levels and printed out on the accounting machine.

Teacher assignments included both teaching and non-teaching assignments.[2] A single subject area was counted only once. This was accomplished by use of the coded class schedule key punched on machine

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[1]Morris, op. cit., p. 38.

[2]See Appendix I.

cards and summarized. The first two numbers on the coded class schedule indicate the subject area and the last two numbers indicate the course taught. For the purpose of this study only the subject area was included. The Code Manual of the State Department of Education for the State of Oklahoma lists 11 subject codes and one non-teaching activities code.

Table 10 and 11 present these data by size and expenditure level. Areas that may include non-teaching activity assignments are footnoted in Table 10 and 11. A basic assumption regarding teacher assignment is that teachers assigned in more than one area are being assigned teaching and non-teaching activities out of their major area of preparation.

Grades 9-12

Table 10 shows a wide distribution of teachers assigned in one area, two areas, and three or more areas. The per cent of teachers assigned in three or more areas tended to increase in the 0-150-151-300 size category as the level of expenditure increased. As the per cent of teachers assigned in three or more areas increased in these categories the per cent of teachers assigned in one area tended to decrease. The per cent of teachers assigned in two areas in these two size categories did not reveal any definite pattern as the level of expenditure increased.

In size categories 301-600 through 2,001-4,000, the per cent of teachers assigned in one area, two areas, and three or more areas varied so greatly as levels of expenditure increased that a pattern of increase or decrease could not be visually identified.

TABLE 10

Per Cent of Teachers Assigned in One Area, Two Areas, and Three or More Areas in Secondary Schools, Grades 9-12 in the Public Schools of the State of Oklahoma by Size of School District and Per Pupil Expenditure, 1964-65

Size of School District	Level of Expenditure								
	$250-299			$300-349			$350-399		
	Area(s)			Area(s)			Area(s)		
	1	2[a]	3[a]	1	2[a]	3[a]	1	2[a]	3[a]
0- 150				40.0	20.0	40.0	13.5	42.3	44.2
151- 300	19.0	23.9	57.1	21.8	44.9	33.3	15.9	44.6	39.5
301- 600	25.0	45.0	30.0	14.8	42.6	42.6	16.3	48.5	34.2
601- 1,200	14.2	71.6	14.2	19.9	56.6	23.5	17.5	49.2	33.3
1,201- 2,000	15.6	62.5	21.9	22.5	58.6	18.9			
2,001- 4,000				34.0	45.2	20.8			
4,001- 6,000									
6,001-12,000									
12,001-25,000									
25,001-or more									

[a]Includes non-teaching assignments such as: administration, guidance and counseling, conference, library, study hall, office, census and attendance, nurse, preparation, vocational conference and supervision, activities and subject supervision.

TABLE 10--Continued

Per Cent of Teachers Assigned in One Area, Two Areas, and Three or More Areas in Secondary Schools, Grades 9-12 in the Public Schools of the State of Oklahoma by Size of School District and Per Pupil Expenditure, 1964-65

Size of School District	Level of Expenditure								
	$400-449			$450-499			$500-549		
	Area(s)			Area(s)			Area(s)		
	1	2[a]	3[a]	1	2[a]	3[a]	1	2[a]	3[a]
0- 150	17.8	40.1	42.1	14.9	29.5	55.6	10.0	52.0	38.0
151- 300	14.2	44.1	41.7	11.8	41.6	46.6	11.7	37.2	51.1
301- 600	25.0	66.6	18.4	23.7	42.1	34.2			
601- 1,200	19.5	58.3	22.2						
1,201- 2,000									
2,001- 4,000									
4,001- 6,000									
6,001-12,000									
12,001-25,000									
25,001-or more									

[a]Includes non-teaching assignments such as: administration, guidance and counseling, conference, library, study hall, office, census and attendance, nurse, preparation, vocational conference and supervision, activities and subject supervision.

TABLE 10--Continued

Per Cent of Teachers Assigned in One Area, Two Areas, and Three or More Areas in Secondary Schools, Grades 9-12 in the Public Schools of the State of Oklahoma by Size of School District and Per Pupil Expenditure, 1964-65

Size of School District	Level of Expenditure											
	$550-599			$600-649			$650-699			$700-Up		
	Area(s)			Area(s)			Area(s)			Area(s)		
	1	2[a]	3[a]	1	2[a]	3[a]	1	2[a]	3[a]	1	2[a]	3[a]
0- 150	8.2	30.6	61.2	5.9	29.4	64.7	3.9	42.3	53.8	11.6	37.1	51.3
151- 300	8.3	57.1	34.6	33.3	33.3	33.3	6.6	32.2	61.2	11.2	44.4	44.4
301- 600	10.5	48.2	41.3	16.7	45.8	37.5						
601- 1,200												
1,201- 2,000												
2,001- 4,000												
4,001- 6,000												
6,001-12,000												
12,001-25,000												
25,001-or more												

[a]Includes non-teaching assignments such as: administration, guidance and counseling, conference, library, study hall, office, census and attendance, nurse, preparation, vocational conference and supervision, activities and subject supervision.

When the levels of expenditure remain constant and the size category increases, the following trends can be observed: (1) As the size increase the per cent of teachers assigned in three or more areas tend to decrease in each level of expenditure; (2) in the $350-399 expenditure level as the size increases the per cent of teachers assigned in one and two areas increase while the per cent of teachers assigned in three or more areas decreases. General observation of Table 10 indicates that as size increases the per cent of teachers assigned in one or two areas tend to increase and those assigned in three or more areas tend to decrease.

Grades 10-12

Table 11 presents data regarding the per cent of teachers assigned in one, two, and three or more areas. By holding the size constant and varying the level of expenditure no pattern of increase or decrease can be established.

When the level of expenditure is held constant and the size increases, definite patterns are established. In the $250-299 level of expenditure the per cent of teachers assigned in three or more areas decreases from 45.9 per cent to 13.0 per cent, those assigned in two areas increases from 41.6 per cent to 72.6 per cent and those assigned in one area varies from 12.5 per cent to 40.3 per cent. As the size of school increases in the $300-349, $350-399, $400-499, and the $450-499 expenditure levels the per cent of teachers assigned in one and two areas increases and the per cent assigned in three or more areas decreases.

TABLE 11

Per Cent of Teachers Assigned in One Area, Two Areas, and Three or More Areas in the Secondary Schools, Grades 10-12 in the Public Schools of the State of Oklahoma by Size of School District and Per Pupil Expenditure, 1964-65

Size of School District	Level of Expenditure								
	$250-299			$300-349			$350-399		
	Area(s)			Area(s)			Area(s)		
	1	2[a]	3[a]	1	2[a]	3[a]	1	2[a]	3[a]
0- 150									
151- 300				9.0	45.5	45.5	12.1	47.7	40.2
301- 600	12.5	41.6	45.9	17.6	50.0	32.4	13.2	52.0	34.8
601- 1,200	23.3	58.2	18.5	23.9	51.7	24.4	29.4	50.2	20.4
1,201- 2,000	40.3	46.5	13.2	28.3	54.4	17.3			
2,001- 4,000	27.4	57.0	15.6	22.6	58.9	18.5			
4,001- 6,000	26.9	57.7	15.4	33.8	50.4	15.8			
6,001-12,000	14.4	72.6	13.0	24.5	60.9	14.6			
12,001-25,000				19.7	65.0	15.3			
25,001-or more				22.1	63.4	14.5			

[a]Includes non-teaching assignments such as: administration, guidance and counseling, conference, library, study hall, office, census and attendance, nurse, preparation, vocational conference and supervision, activities and subject supervision.

TABLE 11--Continued

Per Cent of Teachers Assigned in One Area, Two Areas, and Three or More Areas in the Secondary Schools, Grades 10-12 in the Public Schools of the State of Oklahoma by Size of School District and Per Pupil Expenditure, 1964-65

Size of School District	Level of Expenditure								
	$400-449			$450-499			$500-549		
	Area(s)			Area(s)			Area(s)		
	1	2[a]	3[a]	1	2[a]	3[a]	1	2[a]	3[a]
0- 150									
151- 300	15.3	45.4	39.3	12.3	46.2	42.5	8.9	52.9	38.2
301- 600	14.6	49.4	36.0	14.8	51.1	34.1	12.0	24.0	64.0
601- 1,200	38.0	36.0	26.0	27.7	44.6	27.7	17.3	51.9	30.8
1,201- 2,000	10.1	76.6	13.3						
2,001- 4,000									
4,001- 6,000									
6,001-12,000									
12,001-25,000									
25,001-or more									

[a]Includes non-teaching assignments such as: administration, guidance and counseling, conference, library, study hall, office, census and attendance, nurse, preparation, vocational conference and supervision, activities and subject supervision.

TABLE 11--Continued

Per Cent of Teachers Assigned in One Area, Two Areas, and Three or More Areas in Secondary Schools, Grades 10-12 in the Public Schools of the State of Oklahoma by Size of School District and Per Pupil Expenditure, 1964-65

Size of School District	Level of Expenditure											
	$550-599			$600-649			$650-699			$700-Up		
	Area(s)			Area(s)			Area(s)			Area(s)		
	1	2[a]	3[a]	1	2[a]	3[a]	1	2[a]	3[a]	1	2[a]	3[a]
0- 150												
151- 300	18.3	27.2	54.5									
301- 600				6.0	52.9	41.1	6.0	52.9	41.1	23.2	46.1	30.7
601- 1,200				12.0	64.0	24.0				28.0	56.0	16.0
1,201- 2,000												
2,001- 4,000												
4,001- 6,000												
6,001-12,000												
12,001-25,000												
25,001-or more												

[a]Includes non-teaching assignments such as: administration, guidance and counseling, conference, library, study hall, office, census and attendance, nurse, preparation, vocational conference and supervision, activities and subject supervision.

Tables 10 and 11 indicate that size of school district was a greater determinant in the per cent of teachers assigned in one and two areas than level of expenditure.

Curriculum Offerings

The breadth of educational opportunity can be measured, partially, by the number of courses offered and subject areas in which courses are offered. Courses and subject areas were analyzed according to size of school district and per pupil expenditure in schools grouped by organizational patterns of grades 9-12 and 10-12.

Grades 9-12

The four-year secondary schools offered an average number of 34.7 courses. The range was from a low of 22.0 to a high of 72.0. Table 12 gives the average number of courses by size and level of expenditure.

The data indicates a direct relationship between the number of courses offered and the size of school. In general, the number of courses offered increased as size increased. Within a specific expenditure level the number of courses offered increased as the size of school became larger. The average number of courses offered reached the average in the four-year secondary school approximately at the 301-600 size category and the $350-399 expenditure level.

The data also indicates a direct relationship between the number of courses offered and per pupil expenditure. With exception of the 0-150 size, as the size remained constant the number of courses offered increased as the per pupil expenditure increased. In the 0-150 size

TABLE 12

Number of Courses Offered in Secondary Schools, Grades 9-12 in the Public Schools in the State of Oklahoma by Size of School District and Per Pupil Expenditure, 1964-65

Size of School District	Level of Expenditure										
	$250-299	$300-349	$350-399	$400-449	$450-499	$500-549	$550-599	$600-649	$650-699	$700-Up	Total
0- 150		30.0	27.9	27.9	27.4	29.1	30.9	27.5	30.8	31.2	92
151- 300	27.6	27.9	29.1	29.5	29.7	31.8	32.7	29.0	36.0	34.8	144
301- 600	28.0	30.5	34.0	42.0							21
601- 1,200	45.0	34.3	41.1	42.0							12
1,201- 2,000	51.5	57.2									8
2,001- 4,000		63.1									3
4,001- 6,000											
6,001-12,000											
12,001-25,000											
25,001-or more											
Total											280

category an increase in the level of expenditure did not indicate a significant increase in courses offered.

Grades 10-12

Table 13 presents data regarding the average number of courses offered in secondary schools, grades 10-12.

The three-year secondary schools offered an average number of 51.8 courses. Without exception as the size increased the number of courses increased in each of the 10 expenditure levels. With the size held constant there was not as much increase in the number of courses offered as in the four-year secondary schools as the level of expenditure increased. In the four-year secondary schools the greatest increase was noted when the 301-600 size category is held constant. As the level of expenditure increased, the course offerings increased. However, this did not occur in the 301-600 size category in the three-year secondary schools. The greatest increase was in the 1201-2000 size category. As the level of expenditure increased the number of courses increased. In each size category, 301-600, in the four-year secondary school and 1201-2000, in the three-year secondary schools the level of expenditure did not exceed the $400-449 level.

A comparison of the average number of courses offered in four-year secondary schools and three-year secondary schools indicates the following facts:

(1) Almost without exception size was a greater determinant of the number of course offerings than per pupil expenditure or organizational pattern.

(2) At almost any size or expenditure level from the 151-300

TABLE 13

Number of Courses Offered in Secondary Schools, Grades 10-12 in the Public Schools in the State of Oklahoma by Size of School District and Per Pupil Expenditure, 1964-65

Size of School District	Level of Expenditure										
	$250-299	$300-349	$350-399	$400-449	$450-499	$500-549	$550-599	$600-649	$650-699	$700-Up	Total
0- 150											
151- 300		32.0	34.8	32.1	30.4	34.6	29.0	32.0			34
301- 600	34.2	37.2	36.1	38.3	37.4	39.5			35.0	39.5	110
601- 1,200	40.0	43.3	45.4	51.7	46.5	48.5		42.0		41.5	60
1,201- 2,000	50.1	53.8	50.5	66.5							22
2,001- 4,000	61.3	66.7									16
4,001- 6,000	72.3	71.0									5
6,001-12,000	73.2	82.1									6
12,001-25,000		96.5									2
25,001-or more		186.0									2
Total											257

size category through the 25,001 or more category, the three-year secondary schools offered more courses than four-year secondary schools.

Subject Areas

Data were secured on each of the 537 school districts in an effort to determine the scope of subjects offered in the four-year secondary schools and the three-year secondary schools in different size and expenditure levels. Data were secured in eleven subject areas.[1] If one or more courses were taught in a subject area, the subject area was counted as one.

The schools were grouped according to size and per pupil expenditure and designated as four-year or three-year secondary schools in accordance with the high school organizational pattern. Data regarding the number of subject areas are presented in Tables 14 and 15. The findings are so similar that, for the purpose of discussion, the following paragraphs are applicable to both organizational patterns.

From an examination of the data, the scope of subject areas vary from six to eleven areas. When school size reach the 301-600 size category, the average number of subject areas exceed nine. The lowest number of subject areas was in the 0-150 size category. Table 14 and 15 indicate size of school as the greater determinant of subject area offerings than level of expenditure.

The level of per pupil expenditure indicates a direct relationship to the average number of subject areas. In the first two size categories an average of 2.1 more subject areas offered were noted from

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[1]See Appendix II

TABLE 14

Number of Subject Areas in which Subjects were Offered in Secondary Schools, Grades 9-12 in the Public Schools in the State of Oklahoma by Size of School District and Per Pupil Expenditure, 1964-65

Size of School District	Level of Expenditure										
	$250-299	$300-349	$350-399	$400-449	$450-499	$500-549	$550-599	$600-649	$650-699	$700-Up	Total
0- 150		6.0	8.3	8.0	8.3	8.0	8.0	7.3	8.5	8.6	92
151- 300	7.6	7.9	8.0	8.3	8.4	8.0	8.2	8.0	8.6	9.2	144
301- 600	10.0	8.6	9.5	8.0	9.0		10.0	10.0			21
601- 1,200	10.0	9.4	9.6	10.5							12
1,201- 2,000	9.0	10.0									8
2,001- 4,000		10.0									3
4,001- 6,000											
6,001-12,000											
12,001-25,000											
25,001-or more											
Total											280

TABLE 15

Number of Subject Areas in which Subjects were Offered in Secondary Schools, Grades 10-12 in the Public Schools in the State of Oklahoma by Size of School District and Per Pupil Expenditure, 1964-65

Size of School District	Level of Expenditure										
	$250-299	$300-349	$350-399	$400-449	$450-499	$500-549	$550-599	$600-649	$650-699	$700-Up	Total
0- 150											
151- 300		8.0	8.7	8.2	8.5	9.0	8.0	9.0			34
301- 600	9.5	9.4	9.3	9.5	9.6	9.0			10.0	10.0	110
601- 1,200	10.0	9.9	9.7	10.0	10.0	10.0		10.0		10.0	60
1,201- 2,000	9.8	9.8	10.0	10.0							22
2,001- 4,000	10.1	10.1									16
4,001- 6,000	9.7	9.5									5
6,001-12,000	10.0	10.0									6
12,001-25,000		10.0									2
25,000-or more		10.0									2
Total											257

the lowest expenditure level to the highest expenditure level. As the size of school reached 301-600 category there was very little increase in the average number of subject areas even though Tables 12 and 13 indicated an increase in course offerings.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This investigation has attempted to answer the following question about the public schools in the State of Oklahoma: What is the relationship of size of school district and per pupil expenditure? This relationship was expressed in terms of the scope of the following selected variables: (1) class size, (2) pupil-teacher ratio, (3) level of preparation of teacher, (4) teacher assignment, (5) number of courses offered, and (6) number of subject areas in which courses are offered. This chapter presents the general findings of the study, conclusions, and recommendations for further research.

Source of Data and Procedure

This study included the 537 public schools in the state of Oklahoma that maintained at least grades 1-12. Extensive data were collected from the official files of the Oklahoma State Department of Education.

First, the schools were categorized into one of ten size classifications based on average daily attendance. Second, the schools in each size category were classified into one of ten levels of expenditure. From this, descriptive statistics were computed for all schools of comparable size and per pupil expenditure.

Summary

The general findings from this study are summarized as follows:

(1) An apparent relationship exists between size of school district and per pupil expenditure. In school districts with less than 300 average total daily attendance an increase in per pupil expenditure was noted as average total daily attendance decreased. In schools with average total daily attendance of 301-600 the range of per pupil expenditure tended to decrease as size increased. Per pupil expenditure tended to level off when the size of school district reached 600.

(2) There was an apparent relationship between size of school district and per pupil expenditure such that it affected the quality of the school program in terms of class size and pupil-teacher ratio. This study indicated that:

1. As levels of expenditure increased, class size decreased. As size of school district increased, class size increased.

2. As expenditure levels increased, pupil-teacher ratio decreased. In all levels of expenditure pupil-teacher ratio increased as size increased.

(3) There was an apparent relationship between size of school district and per pupil expenditure such that it affected the quality of the school program in terms of professional background and utilization of school personnel. This study indicated that:

1. There tends to be a higher per cent of teachers with a master's degree or beyond as size of school district increases.

2. The higher the level of expenditure does not necessarily increase the number of teachers holding a master's degree or beyond.

3. An unusual number of teachers were assigned in two

or three or more areas. This is partially offset because non-teaching activities were considered as an area. However, these are assignments in which teachers perform responsible tasks. Size of school district was a greater determinant than per pupil expenditure in reducing the number of areas in which teachers are assigned.

(4) There was an apparent relationship between size of school district and per pupil expenditure such that it affected the quality of the school program in terms of the number of courses offered and the number of subject areas. This study indicated that:

1. There was a consistent increase in the number of courses offered as the size of school district and level of expenditure increased. Almost without exception size of school district was the greater determinant of the number of course offerings than per pupil expenditure or organizational patterns. At almost any size of school district or level or expenditure the three-year secondary schools offered more courses than the four-year secondary schools.

2. The number of subject areas in which courses were offered were closely related to size of school district and level of expenditure. The size of school district was a greater determinant of subject areas than level of expenditure.

Conclusions

When size of school district, per pupil expenditure, and the selected variables were considered, school districts with an average total daily attendance of less than 300 pupils were paying a disproportionate and exorbitant price for a limited school program. Per pupil expenditure is an important factor in a quality educational program but not the most important. When all variables are considered, size of school district is a more important indicator of a quality educational program than per pupil expenditure. The school districts in this study with less than 300 pupils in average total daily attendance were

characterized by limited curricular offerings, few teachers with the master's degree or beyond, many small classes, and many teachers assigned in two or three or more teaching and non-teaching areas.

Recommendations for Further Study

This study has revealed additional questions that should be investigated:

(1) What is the relationship between size of school and student participation in extra-curricular activities in the secondary school?

(2) What are the relationships between size of school and level of expenditure and student achievement in college?

(3) What effect does size of school and level of expenditure have on scores on standardized tests?

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APPENDIX I

SUBJECT AREA ASSIGNMENTS

01 Language Arts

02 Social Studies

03 Science

04 Mathematics

05 Fine Arts

06 Business Education

07 Foreign Language

08 Home Economics

09 Industrial Arts

10 Vocational Education

11 Physical and Safety Education

15 Non-teaching Activities

APPENDIX II

SUBJECT AREAS OFFERED

1. Language Arts
2. Social Studies
3. Science
4. Mathematics
5. Fine Arts
6. Business Education
7. Foreign Language
8. Home Economics
9. Industrial Arts
10. Vocational Education
11. Physical and Safety Education