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IN OKLAHOMA AND EQUALITY OF

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A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

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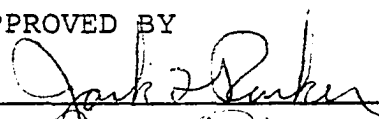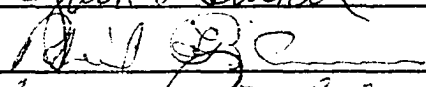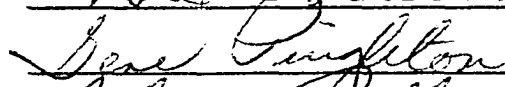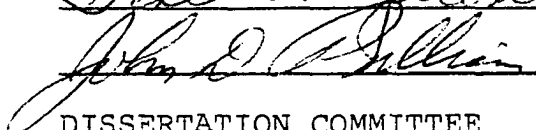
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DOCTOR OF EDUCATION

BY

LARRY ALLEN DARBISON

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DISSERTATION COMMITTEE

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CHAPTER I

Introduction

Equality of educational opportunity cannot become a reality until equality of educational facilities is attained. Economists and educators across the nation are struggling with the concept of equal educational opportunity for disadvantaged students who are culturally, economically or physically handicapped. At the federal level, new regulations are being handed down to practitioners in public schools in an effort to provide equal opportunity for each public school student.

At a time in the history of the nation's schools when the public, educators and statesmen are most aware of the inequities in public education, facilities for improving the educational process are receiving less support. Local bond issues are being defeated in district after district. This seems due to the economic conditions of the country, and the apparent dissatisfaction that the school patrons have

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with the schools. Whatever the cause, new programs for
equalization of educational opportunity are being legislated
at the state and federal level with no plan for development
of adequate facilities in which to implement the new thrusts
in education.

Historically, providing educational facilities has
been the function of the local school district. Since the
days of the colonization of America, each local community has
provided school facilities for the education of its children.
Herber recognized that there has been almost no direct federal
financial assistance for public school buildings except as a
by-product of the Federal Emergency Administration of Public
Works (P. W. A.) during and shortly after the depression
years of the early 1930's.

In reviewing the literature relating to educational
facilities, Herber wrote, "The various states have had benefits
of federal assistance from 1787 to the present time."[1] He
amplified this statement to say that federal aid has been avail-
able through land grants and categorical aid; but, few direct
federal dollars have been appropriated for building facilities.

The Federal Constitution does not speak to the issue
of establishing public schools nor does it reserve the right
for their control. Authority for State control of schools is

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[1]Howard T. Herber, The Influence of the Public Works
Administration on School Building Construction in New York
State 1933-1936 (New York: Bureau of Publications, Teachers
College, Columbia University, 1938), p. 17.

well established through various court decisions based on

the Tenth Amendment to the Constitution which provides: "The

powers not delegated to the United States by the Constitution

nor prohibited by it to the states, are reserved to the states

respectively or to the people."

In a study completed by the Education Commission of

the states during the 1974-75 school year, it was found that

Oklahoma and fourteen other states did participate in construc-

tion costs of new buildings and school facilities at the State

level.[1] All funds must be provided at the local school district

level primarily through the voting of bonds to raise money

through an increase in local taxes. This same study showed

that only Hawaii provided full State funding of building costs

while Florida and Maryland had laws that allowed full State

funding of building costs, but did not provide adequate State

appropriations to fully implement the authorization.

All educational building facilities in school districts

in Oklahoma are funded from local funds according to Article

III, Section 423 of the School Laws of Oklahoma.

> Provided, further, that any county, city, town,
> school district or other political corporation, or
> subdivision of the State, incurring any indebtedness
> requiring the assent of the voters as aforesaid, shall
> before or at the time of doing so, provide for the
> collection of an annual tax sufficient to pay the
> interest on such indebtedness as it falls due, and
> also to constitute a sinking fund for the payment of
> the principal thereof within twenty-five (25) years

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[1]John Augenblick, Systems of State Support for School
District Capital Expenditures (Denver, Colorado: Education
Commission of the States, May, 1977), p. 1.

of the time of contracting the same, and provided further that nothing in this Section shall prevent any school district from contracting with certified personnel for periods extending one (1) year beyond the current fiscal year under such conditions and limitations as shall be prescribed by law.[1]

Litigation through the courts in various states has focused on the concept of equal educational opportunity in the area of building facilities. In 1972, an Arizona state court noted:

> Funds for capital improvements for school districts are even more closely tied to district wealth than are funds for operating expenses. The State and county make no contributions whatever to the costs of capital improvements. The capability of a school district to raise money by bond issues is a function of its total assessed valuation.[2]

In New Jersey, the State Supreme Court upheld a lower court's decision overthrowing the State's system of school finance in 1973. That decision included the statement, "The State's obligation includes as well the capital expenditures without which the required educational opportunity could not be provided."[3]

In a five-year projection of the needs of the State of Oklahoma covering the period from fiscal year 1977 through fiscal year 1982, a section was devoted to the problem of financing school construction. In this section the following statement is made:

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[1]Oklahoma, State Department of Education, School Laws of Oklahoma (1976), art. III, sec. 423.

[2]Hollings v. Shofstall, Supreme Court of Arizona Maricopa County, No. C-253652, June 1, 1972. Reversed 110 Ariz 88, 515, p. 2d., 590 (1973).

[3]Robinson v. Cahill, 287A 2d S. 187 (N. J. Super. 1972).

Since education is a compelling State interest,
the problem of assuring both a high level of quality
and greater uniformity of educational opportunity in
every school must be solved by the citizens of each
state through proper legislative process so that the
goal may be more quickly reached that all children
may enjoy the privilege of attending school in ade-
quate facilities--regardless of the taxable wealth
of the district in which they happen to reside.[1]

It was the premise in this study that great differences

exist in the educational facilities in the State of Oklahoma.

How wide these differences were and how seriously it affected

the quality of programs offered in the public schools has not

been investigated. In an effort to respond to this need, this

study was developed.

Statement of the Problem

The problem of this study was to investigate the rela-

tionships among the wealth of certain Oklahoma school disticts,

the quality of their building facilities and factors related

to the quality of education they provided.

School building facilities in Oklahoma are financed

from taxes based on the wealth of the local district. The

State imposes legal restrictions on school districts that

raise funds for capital improvements which affect a local dis-

trict's ability to tax itself and go into debt. These restric-

tions are five percent of the valuation of the taxable property

in a district under normal circumstances; but, under unusual

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[1]Oklahoma, State Department of Education, Common Educa-
tion--Five Year Projected Program (FY--1976), p. 21.

circumstances of need, an aggregate of ten percent of the
valuation of the taxable property may be obligated in bonds
by a school district.[1]

Districts in Oklahoma vary in wealth or taxing
capacity. Because school building facility construction
is linked directly to the factor of district wealth, this
study investigated:

(1) The relationship between the quality of
     school building facilities and the quality
     of education provided, based on the units
     of approved high school work offered.

(2) The relationship between the quality of
     school building facilities and the member-
     ship of the schools.

(3) The relationship between the quality of
     school building facilities and the extra-
     curricular activities provided for students.

(4) The relationship between the quality of
     school building facilities and the public
     service property in the district.

(5) The relationship between the quality of
     school building facilities and the total
     net assessed valuation of the property in
     the district.

Need for the Study

The number of State supported school districts in
Oklahoma was 4,450 in 1946. In 1976, just thirty years later,
there was a total of 624 districts in the State. This was a
reduction of 3,826 districts. Of the 3,826 districts that
have annexed or consolidated, 2,380 of the districts were

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[1]Oklahoma, School Laws of Oklahoma, 1976, art. XV,
sec. 203.

forced to change their status because attendance or financial
support dropped below State mandated levels. The remaining
1,446 closed their doors or joined other districts in a
voluntary manner prior to being forced to do so by State
regulations.[1]

Of the remaining 624 school districts, 452 were
secondary school districts maintaining grades nine through
twelve as well as elementary grades. Data for the 1976-77
school year from these 452 school districts showed member-
ships in grades nine through twelve varied from thirty-nine
students in the smallest school district in the State to
19,236 students in the largest school district in the State[2]
As the data are reviewed over a thirty-year period, it would
appear that not all students attend schools that provide equal
educational opportunity.

School building facilities in Oklahoma are the res-
ponsibility of the local school district. Because of the
unequal distribution of wealth between districts, many schools
cannot provide adequate facilities. Education of the handi-
capped, compensatory education, flat grants, increased energy
costs, decreased enrollments, lack of equitable distribution of
taxes from public service property, trust funding, unequal assess-
ment and current economic conditions have all contributed to

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[1]Oklahoma, State Department of Education, 1976-77
Annual Report, p. 20.

[2]Oklahoma, State Department of Education, Student
Membership Roster, (October 1, 1976).

a situation that has severely limited school districts in providing adequate building facilities.

The erratic consolidation pattern and the unequal distribution of wealth between districts appear to have created a system of unequal school building facilities. The court cases, Hollins v. Shofstall and Robinson v. Cahill, as quoted by Augenblick, claimed a direct relationship between school building facilities and equal educational opportunity.[1]

Review of the literature indicated a need for additional information on school building facilities in Oklahoma. The State Department of Education and the State Legislature are considering issues which affect the long-range building programs in the State. Because of this current interest in school facilities, it was clear that a need existed for this study.

Hypotheses That Were Tested

Ho[1] There is no statistically significant difference in the quality of the high school building facilities in a district and the units of approved high school work.

Ho[2] There is no statistically significant difference in the quality of the high school building facilities in a district and the membership in grades nine through twelve.

Ho[3] There is no statistically significant difference in the quality of the high school building facilities in a

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[1]John Augenblick, Systems of State Support for School District Capital Expenditures, p. 4.

district and the number of kinds of extra-curricular activities available to students.

Ho_4 There is no statistically significant difference in the quality of the high school building facilities in a district and the assessed value of the public service property in the district.

Ho_5 There is no statistically significant difference in the quality of the high school building facilities in a district and the total net assessed valuation of the district.

Limitation of the Study

This study was conducted using field research techniques. Because of the nature of such a study, it was necessary to limit the number of schools. Memberships for the 452 high school districts in Oklahoma were collected from the State Department of Education. These memberships as of October 1, 1976, were ranked from lowest to highest.

To limit the study to manageable size, only high schools were considered, and then only those schools with memberships between 300 and 800 students. The decision to consider only secondary schools was arbitrary, however, the 300 to 800 sample size was selected as a result of a statement in Guide for Planning Educational Facilities:

> The desirable minimum size of secondary school centers is set at approximately 300 pupils or 75 pupils per grade. It should be noted, however, that there are sizable gains in economy as the total enrollment size increases from 300 to 500. Although educational opportunities tend to increase slightly in secondary school centers beyond 800, the cost per

unit of educational opportunity shows little further
decrease beyond this point. Any advantage of increased
size beyond this point may be offset by educational
and psychological disadvantages. There is little evi-
dence to support any utility or educational gains for
groupings of more than 1,000 pupils . . . .[1]

There were eighty-nine secondary schools in Oklahoma

whose membership was between 300 and 800 students on October

1, 1976. These schools were ranked from lowest to highest

on the basis of per capita valuation as reported in the 1976-77

Annual Report. The list of ranked schools was divided into

three groups each containing approximately thirty schools.

The result of this division was to separate the school districts

into the thirty most wealthy on the list, the thirty with the

least wealth and the twenty-nine whose wealth was between

these two groups.

To further limit the study, a table of random numbers

was used to select eight schools from each of the three groups,

thus generating a stratified random sample of twenty-four

school districts.[2] This sample assured that an equal repre-

sentation of high wealth, average wealth, and low wealth dis-

tricts would be included in the study.

Additional limitations were that each district have

only one high school site and that this site contain grades

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[1]Council of Educational Facility Planners, Guide for
Planning Educational Facilities (Columbus, Ohio: Council of
Educational Facility Planners, 1969), p. 32.

[2]Edward W. Minimum, Statistical Reasoning in Psychology
and Education (New York: John Wiley & Sons, Inc., 1970),
p. 233.

nine through twelve. School districts selected that did not conform to these conditions were set aside and another district from the same wealth group was selected in its place using the random sampling technique described.

Definition of Terms

Equal Educational Opportunity: Assuring equal dollars per student or assuring enough money to provide comparable programs for students when their different needs and the costs of providing them have been taken into account.

School Building Facilities: All the buildings and support facilities that are utilized in the educational process of teaching and learning.

Federal Aid: Funds for educational purposes received from federal sources--usually categorical in nature and allocated to further some national interest.

State Aid: Funds from the State--appropriated by the State Legislature and administered by a State Department of Education. Allocation to schools is made on the basis of the State aid formula.

Local Support: Funds voted as a part of the annual school election (maximum 35 mills), the county four-mill ad valorem tax levy and other taxation at the local level made necessary by the issuance of bonds by a school district.

Unit of Approved High School Work: The amount of credit given for the successful completion of a two-semester course in grades nine through twelve. (Carnegie units)

Membership: The total number of students enrolled in a school at any given time. Membership in Oklahoma is counted on October 1 for most purposes.

Average Daily Attendance: The aggregate days attended by all students divided by the number of days taught.

Extra-Curricular Activities: Activities sponsored by a school for which the student receives no credit toward graduation.

Personal Property: Property owned by individuals other than real property such as furniture, animals, farm equipment, tools, etc.

Real Property: Real estate such as land, buildings, factories, houses, apartments, etc.

Public Service Property: Public utilities such as power plants, pipe lines, railroads, power lines, canals, etc.

Net Assessed Valuation: Sum of assessed personal, real and public service property in a school district.

Assessed Valuation: The Equalization Board of the State of Oklahoma at the direction of the State Supreme Court has mandated that personal and real property in each county in Oklahoma be assessed at twelve percent of its actual value. A variance of three percent is allowed so that a maximum rate of fifteen percent is possible and the minimum assessment rate is nine percent.

Secondary School District: A school district maintaining grades kindergarten through twelve.

<u>Four-Year High School</u>: A school district that includes grades nine through twelve in the high school.

<u>Wealth of a District</u>: Net assessed valuation of a district per pupil.

Organization of the Study

This dissertation was divided into five chapters. Chapter I was a description of the study which included the introduction, the statement of the problem, need for the study, hypotheses to be tested, limitation of the study, and definitions. Chapter II contained a review of the literature covering the history of school finance in America. Also included in Chapter II was a review of current practices in school financing; especially school building facility financing nation-wide. The third part of Chapter II described the procedures used in Oklahoma to finance school building facilities. Chapter III described the design of the study. Presentation and analysis of the data was covered in Chapter IV. Chapter V contained the findings of the study, the interpretations and conclusions. Suggestions were made for further research that may be generated by the conclusions of the study.

CHAPTER II

REVIEW OF LITERATURE

Historical Development of the Public School

History shows early educational practices in the
Colonies (that later became the United States) gave little
consideration to the concept of equal educational opportunity.
The one concession to universal education in the early period
of colonization was in teaching children to read. Popham
says, "A main tenet of the Protestant Reformation had been
that every individual is responsible for his own soul, and
in order to work out his own salvation, he must be able to
read the Christian doctrines contained in the Scriptures."[1]

By 1635, the Boston Public Latin School had been
established with the objective of training a few select male
students who would enter college to become ministers. Harvard,
the first American college, was founded in 1636 to provide the
training needed by those selected to enter college to become
ministers. Almost immediately, church leadership began efforts
to establish the needed institutions to provide the religious

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[1]Donald F. Popham, Foundation of Secondary Education--
Historical, Comparative and Curricular (Minneapolis: Burgess
Publishing Company, 1969), p. 124.

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training that was desirable. Latin schools were established in
other colonies as well as Massachusetts. "These schools often
receive public funds either directly or from income assigned
from certain public lands. Families that could afford to do
so were expected to pay part of the cost of educating their
children, but a provision was also made for children of indi-
gent parents."[1]

The Massachusetts Law of 1642 gave town officials
power to provide schooling and it ordered that all children
be taught to read. The Massachusetts Law of 1647, the law
known as the "Old Deluder Satan Act," went one step further
and made it obligatory on townships to establish and main-
tain schools. This Act not only established the local
pattern of public education, but specified the size of
communities that must establish schools. "The Act required
those towns of fifty households or more to establish elemen-
tary schools and those of one hundred families were to estab-
lish a Latin Grammar school. Such schools were to be supported
by either all the citizens or just by the parents.[2]

By 1750, the Latin grammar schools were not providing
a curriculum sufficient to meet the needs of the colonies
and a new school plan for secondary education was proposed
by Benjamin Franklin. This new school, which Franklin called
an Academy, taught classical languages and literature; French,

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[1] Ibid.

[2] Ibid., p. 126.

Spanish, German, English grammar, rhetoric, literature, history,
and the sciences of a practical vocational nature.

Of students attending academies, Franklin wrote,

> It would be well if they could be taught _everything_
> that is useful, and _everything_ that is ornamental: but
> Art is long and their Time is short. It is therefore
> proposed that they learn those Things that are likely
> to be _most useful_ and most ornamental. Regard being
> had to the several Professions for which they are
> attending.[1]

· The academy was a step toward the secondary school as
it is known today. Most were operated as non-profit organiza-
tions with the required income being collected as tuition.
During the period from 1770 to 1870, the academy served uniquely
the secondary level educational needs of the middle class of
the United States.

In 1787, Thomas Jefferson wrote, "Above all things, I
hope the education of the common people will be attended to;
convinced that on their good senses we may rely with the most
security for the preservation of a due degree of liberty."[2]

In the 1796-97 session of the Virginia legislature,
Jefferson's ideas of providing free elementary schools for
all children moved one step closer to reality when a law was
passed to provide free elementary schools for all and free
residental Latin grammar schools for the best of the scholars.

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[1] Donald F. Popham, _Foundation of Secondary Education:
Historical, Comparative and Curricular_ (Minneapolis: Burgess
Publishing Company, 1969), p. 124, quoting _The Papers of
Benjamin Franklin_ (New Haven Connecticut: Yale University
Press, 1961), p. 404.

[2] John P. Foley, ed., _The Jefferson Cyclopedia_ (New York:
Russell and Russell, Inc., 1967), p. 277.

Even though the law passed, it was never implemented because of problems with funding the new school. However; the law did serve as a pattern for those considering such legislation.

In Massachusetts, educational reforms were being considered and a State board of education was established by the legislature. In 1837, Horace Mann was appointed the first secretary of this board and during each of his twelve years in this office, prepared an annual report containing his beliefs concerning basic education.

In his Twelfth Annual Report, Mann emphasized his ideas pertaining to the potential of education and the need for equal educational opportunity. He said, "Now, surely, nothing but universal education can counterwork this tendency of labor." He concluded, "Education, then, beyond all other devices of human origin, is the great equalizer of the condition of men."[1]

Mann continued to support the concept of free public nonsectarian schools financed by the State to the extent of the need for such support. He believed that schools should be conducted by teachers well-trained in both subject matter and methods of teaching. By 1859, the year of his death, more and more states were beginning to follow his leadership toward a system of free public schools.

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[1]Louis Filler, ed., Horace Mann on the Crisis in Education (Yellow Springs, Ohio: Antioch Press, 1965), p. 119-124.

Evolution of the Free Public High School

The first free American high school was established
in Boston in 1821. In 1827, Massachusetts enacted a law
that called upon each town of five hundred families to offer
tax supported instruction in specified high school subjects.
In addition, towns of four thousand people were required to
offer even more extensive course work. According to Popham,
"In spite of its mandatory provision, this legislation was
not well enforced until the time of Horace Mann . . ."[1]

"By the year of 1860 over three hundred high schools
had opened throughout the length and breadth of the country
as far west as San Francisco and as far south as New Orleans."[2]
With the wide-spread development of common schools and the
acceptance of the high school as a part of this system, court
cases began to be heard questioning the constitutionality of
states imposing taxes for support of the expanding educational
system. "In 1859, the Supreme Court in both the states of
Iowa and Illinois had determined that the high school must be
regarded as a common school."[3]

Reutter states, "Perhaps the landmark case in the
area was the famous Kalamazoo case[4] in which the supreme court

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[1]Popham, p. 137.

[2]Adolphe E. Meyer, An Educational History of the American
People (New York: McGraw Hill Book Company, Inc., 1967), p. 208.

[3]Popham, p. 139.

[4]Stuart v. School District No. 1 of Village of Kalamazoo,
30 Michigan 69, (1874).

of Michigan in the absence of express legislative authority

held that a local board did have the power to maintain a

high school."[1] As the American people accepted the decision

in the Kalamazoo case, fewer challenges occurred in other

states concerning public support for high schools. The

precedent set in this case has been extended to remodeling

of buildings, purchase of building sites, construction of

gymnasiums and stadiums, curriculum modification, and numerous

far-reaching practices. Court action has been a part of many

of these changes, but the precendent set in the 1874 Kalamazoo

ruling is cited in many cases far removed from the original

question of the legality of taxation to support a high school.

Following the Civil War and shortly after the Kalamazoo

decision, a great industrial nation began to emerge in the

United States. In 1896, Henry Ford invented his first car,

and seven years later founded the Ford Motor Company. In

1914, Ford introduced assembly line production and the auto-

motive industry lead the way into the new era of industrialism.

This new direction in the economy of the Nation intro-

duced a completely new dimension and direction for the infant,

but now legitimate, high school. Early education had been

provided for religious purposes and later the academies were

introduced to teach those things that would be "most useful."

Jefferson believed that schools should prepare the country's

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[1]E. Edmund Reutter, Jr. and Robert R. Hamilton, The
Law of Public Education (Mineola, New York: The Foundation
Press, Inc., 1970), p. 111.

citizens for preserving liberty, while Horace Mann proclaimed that education was the "great equalizer of the condition of man."

As early as 1896, Butler argued that the public education of a great democratic people "has other aims to fulfill than the extension of scientific knowledge and the development of culture. It must prepare for intelligent citizenship."[1]

Because of the increase in numbers of high schools and the expanding responsibilities that they were being required to assume; operating costs increased. Cremin said, "In the earnest desire to fill the widening educational breach caused by the transformation of home and neighborhood, the public schools assumed tasks of prodigious order."[2] Barr stated that "the change from local church and private schools to tax-supported school systems spans two centuries."[3]

During the period from colonization until each State had a tax plan for supporting public schools, many different methods had been used to raise money for their operation. Barr wrote that "churches supported schools; subscriptions

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[1]Nicholas Murray Butler, "Democracy and Education," in Stan Dropkin, Harold Full, and Ernest Schwarcz (eds.), Contemporary American Education, (London: The Macmillian Company, 1971), p. 137, quoting National Educational Association: Proceedings and Addresses, (1896), p. 91.

[2]Lawrence A. Cremin, "Some Changing Demands on the School," in Stan Dropkin, Harold Full, and Ernest Schwarcz (eds.), Contemporary American Education, (London: The Macmillian Company, 1971), p. 136.

[3]W. Monfort Barr, American Public School Finance (New York: American Book Company, 1960), p. 24.

were sought; rate bills to families whose children attended
schools were fairly common; lotteries were held; and contri-
butions were accepted."[1]

By the middle of the nineteenth century, the principle
of free tax-supported public schools was accepted across the
nation. The concept of education for all children was accepted
when the various State legislatures passed laws requiring
development of a State system of education. Since the federal
constitution did not include a provision for establishment of
school systems, it was necessary that states assume this role
so that all children would have the opportunity for a free
education within a given State.

Operating costs for schools increased and so did the
cost of providing the needed facilities for the many new
responsibilities that were being assumed by schools at the
beginning of the twentieth century. The early development
of the district supported school was funded by local resources.
"As in colonial days, the school building, typically a log
structure, was often erected in a 'raising bee'."[2] As the
need for improved facilities became apparent, other means
were sought for construction costs.

Equalization--A New Concept

By the beginning of the twentieth century, most states
had formed a department of education. The responsibility of

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[1] Ibid., p. 26.

[2] Ibid., p. 28.

this new arm of government varied from State to State. Some were involved in distribution of State funds for operation of schools, others were developed to encourage consolidation of small school districts, and still others had the additional responsibility of assisting with and monitering school building construction.

Because of the erratic development of the educational system across the United States due to local control, varying interest in education at the local level and varying district wealth; educational opportunity varied just as greatly. Ellwood Cubberley of Teachers College, Columbia University led the way to the study of inequities in school financing. Coons wrote, "Cubberley's principal empirical demonstration was that wealth among districts varied radically, and that this variance determined their relative ability to provide for education."[1] In his monograph on School Funds and Their Apportionment, Cubberly pointed out that poorer districts were being forced to tax their wealth at many times the rate of the rich districts, but produced only a fraction of what the nearby school districts generated with a much lighter tax burden.[2]

According to the custom of the early part of this century, when funds ran out, the poor districts simply closed

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[1]John E. Coons, William H. Clune III, and Stephen D. Sugarman, Private Wealth and Public Education (Cambridge, Massachusetts: The Belknap of Harvard University Press, 1970), p. 52.

[2]Elwood P. Cubberley, School Funds and Their Apportionment (New York: Teachers College, Columbia University, 1905), p. 16.

their doors. Cubberley believed that basic education should
be provided to all children without regard to the wealth of
the district in which they resided. He believed that state
aid should be provided to all districts, and that this addi-
tional funding would provide not only basic education, but
also trade schools, high schools, and kindergarten.[1]

Cubberley's philosophy of school finance included
payments to each district, and did not consider the wealth
of the district to any great extent. He developed the idea
of flat grants and according to Coons and others, his most
important contribution was evaluation of the unit best
reflecting educational task.[2] Cubberley's writings stressed
the concept that all children should have an equal opportunity
for an education. The following quote from School Funds and
Their Apportionment described Cubberley's ideas and demonstrated
the beginning of the equalization concept:

> Theoretically, all children in the state are
> equally important and are entitled to have the same
> advantages; practically this can never be quite true.
> The duty of the state is to secure for all as high a
> minimum of good instruction as is possible; but not
> to reduce all to this minimum; to equalize the advant-
> ages to all as nearly as can be done with the resources
> at hand; to place a premium on those local efforts which
> will enable communities to rise above the legal minimum
> as far as possible; and to extend their educational
> energies to new and desirable undertakings.[3]

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[1] Ibid., pp. 224-249.

[2] Coons, et. al., Private Wealth and Public Education,
p. 53.

[3] Cubberley, School Funds and Their Apportionment, p. 17.

Johns and Morphet indicated that Cubberley's most important findings could be stated as follows:

1. Due to the unequal distribution of wealth, the demands set by the states for maintaining minimum standards cause very unequal burdens; what one community can do with ease is often an excessive burden for another.

2. The excessive burden of communities borne in large part for the common good should be equalized by the State.

3. A State school tax best equalizes the burdens.

4. Any form of State taxation for schools fails to accomplish the ends for which it was created unless a wise system of distribution is provided.[1]

It is important to note that Cubberley's plan led the way to universal State aid and yet very little equalization among districts took place. Under his plan, each district received State funds based on some unit which was referred to as an "educational task." Since wealthier districts were already accomplishing more "educational tasks," they received a greater share of the State funds.

In 1922, Harlan Updegraff made a study of school finance in New York State and Pennsylvania, which once again called attention to the need for greater emphasis on equalization. He reviewed Cubberley's findings, and accepted most of his theories; however, he expanded on Cubberley's work by proposing a variable-level equalized foundation program. This plan provided for complete equalization among local districts at any given tax level. But, the plan also provided that the

[1]Roe L. Johns and Edgar Morphet, The Economics and Financing of Education: A Systems Approach (Englewood Cliffs, New Jersey: Prentice Hall, Inc., 3rd edition, 1975), p. 207-208.

State would continue to match the local funds raised by the

district up to nine mills at the same ratio of State funds

to local funds for a higher guaranteed level per teacher

unit.[1]   .

Updegraff's variable-level foundation plan was rejected

by Strayer and Mort because of the incentive element that was

built into it. Both of these theorists felt that it was

impossible to provide the opportunity of local incentive, and

at the same time provide a foundation program that had the

necessary equalization capability.

Guthrie wrote that Updegraff's concept of "percentage

equalizing" was employed as early as 1917 in English public

finance:

> The idea lay dormant for approximately fifty years
> during which the "Foundation Plan" school finance
> schemes of George Strayer, Robert Haig, and Paul Mort
> were widely adopted throughout the United States. The
> writing of James Coons, William Clune and Stephen
> Sugarman revived "percentage equalizing" under a more
> fashionable label, power equalizing. However, those
> who have labored in the trenches of practical state
> level school finance reform have encountered sufficient
> political opposition to the words "power" and "equalizing"
> to justify inventing new terms, e. g., "Local Guaranteed
> Yield (LGY)" and "Guaranteed Tax Base (GTB)."[2]

Regardless of the name attached, Updegraff's concepts

can be found in the distribution formulas for State aid across

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[1]Harlan Updegraff, _Financial Support, Rural School
Survey of New York State_ (Ithaca, New York: Joint Committee
on Rural Schools, 1922), p. 243.

[2]James W. Guthrie, _Equity in School Financing: District
Power Equalizing_ (Bloomington, Indiana: The Phi Delta Kappan
Educational Foundation, 1975), p. 6.

the nation.

Another concept that Updegraff developed was that of
the teacher-unit, which is used by some states in calculation
of State aid. This concept rejected the idea of providing
State aid on the basis of the number of teachers employed in
a school, but on the basis of a set number of pupils per
teacher. This utilizes a number which is calculated from a
membership count in determining State aid for a district.
Updegraff recognized that rural and city schools should be
funded differently, and he suggested that this be done on
the basis of varying the size of the teacher unit.[1]

In 1923, George D. Strayer and Robert Murray Haig
published a school finance plan that advanced the concept of
equalization of educational opportunity and that of equaliza-
tion of school support. This plan, referred to as the Strayer-
Haig Model has been extremely important in school finance
theory for the past fifty years.

In The Economics and Financing of Education, Johns
and Morphet cited the following principles from the Strayer
and Haig foundation model:

1. Compute the cost of a satisfactory minimum educational
    offering in each district in the state

2. Compute the yield in the district of a uniform, state-
    mandated local tax levy on the equalized valuation of
    property, and

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[1]Updegraff, p. 246.

3. Provide the difference between the cost of the minimum program and the yield by the required minimum tax levy from State funds.[1]

They also stated:

The achievement of uniformity would involve the following:

1. A local school tax in support of the satisfactory minimum offering would be levied in each district at a rate which would provide the necessary funds for that purpose in the richest district.

2. The richest district then might raise all of its school money by means of the local tax, assuming that a satisfactory tax, capable of being locally administered, could be devised.

3. Every district could be permitted to levy a local tax at the same rate and apply the proceeds toward the costs of schools, but---

4. Since the rate is uniform, this tax would be sufficient to meet the costs only in the richest district, and the deficiencies would be made up by State subventions.[2]

An important principle that is associated with the Strayer-Haig model of school finance was that of equalization of educational opportunity. Strayer and Haig did not believe that it was possible to equalize and at the same time reward districts for effort beyond the foundation program. This principle is discussed in Status and Impact of Educational Finance Programs[3] in which Strayer and Haig are cited as follows:

[1]The Educational Finance Inquiry Commission, The Financing of Education in the State of New York, vol. 1 (New York: The Macmillan Company, 1923), p. 19.

[2]Johns and Morphet, The Economics and Financing of Education, p. 211.

[3]Roe L. Johns, Kern Alexander, and Dewey H. Stollar, eds., Status and Impact of Educational Finance Programs (Gainsville, Florida: National Educational Finance Project, 1971), p. 9, cited in The Financing of Education in the State of New York, vol. 1 (New York: The Macmillan Company, 1923)

Any formula which attempts to accomplish the double purpose of equalizing resources and rewarding effort must contain elements which are mutually inconsistent. It would appear to be more rational to seek to achieve local adherence to proper educational standards by methods which do not tend to destroy the very uniformity of effort called for by the doctrine of equality of educational opportunity.[1]

Paul R. Mort, a student of Strayer, did a study which he titled, The Measurement of Educational Need. He began with the concepts of Strayer and Haig, and developed ideas concerning what should and should not be included in the State assured minimum program. Three principles that are as true today as when Mort published them in 1924 are:

1. An educational activity found in most or all communities throughout the state is acceptable as an element of an equalization program.

2. Unusual expenditures for meeting the general requirements due to causes over which a local community has little or no control may be recognized as required by the equalization program. If they arise from causes reasonably within the control of the community they cannot be considered as demanded by the equalization program.

3. Some communities offer more years of schooling or a more costly type of education than is common. If it can be established that unusual conditions require any such additional offering, they may be recognized as a part of the equalization program.[2]

Mort was one of the first school finance theorists to give any real consideration to the inequality of building facilities as a part of a plan for equalization of opportunity.

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[1] The Financing of Education in the State of New York, p. 175.

[2] Paul R. Mort, The Measurement of Educational Need (New York: Teachers College, Columbia University, 1942), pp. 6-7.

In his book, <u>The Measurement of Educational Need</u>, he made

the following statement:

> A satisfactory equalization program would demand
> that each community have as many elementary and high
> school classroom or teacher units, or their equivalent,
> as is typical for communities having the same number of
> children to educate. It would demand that each of these
> classrooms meet certain requirements of structure and
> physical environment. It would demand that each of
> these classrooms be provided with a teacher, course of
> study, equipment, supervision and auxiliary activities
> meeting certain minimum requirements. It would demand
> that some communities furnish special facilities, such
> as transportation.[1]

Sir Isaac Newton once said that he had "stood on the

shoulders of giants," and this had led him to the many

scientific discoveries for which he is known. The giants

to which he referred were those great scientists whose research

he had studied and used in his theories. Mort had this same

opportunity in the field of school finance. He was able to

utilize the writings of Updegraff, Strayer, Haig, and others

to develop models that found wide acceptance in his day, and

still are the basis of foundation programs which are designed

to equalize educational opportunity.

Mort developed the concept of "weighting pupils" and

later extended this to include not only elementary and second-

ary students, but vocational education, exceptional education

and compensatory programs that require additional expenditures

per child. This concept was so revolutionary that modern school

finance theorists have not been able to completely implement it

into workable formulas for distribution of aid.

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[1] Ibid., p. 8.

Another important theorist in school finance during
the early 1900's was Henry C. Morrison. His book, School
Revenue contained some basic concepts that are just now being
discovered as having practicality. Morrison's model for school
finance proposed eliminating all local school districts and the
State itself becoming both the unit of taxation for schools
and for the administration of public schools. He believed
that the most equitable form of tax for the State to use for
the support of schools is the income tax.[1]

One of the several important school finance plans
discussed in this paper is "Full State Funding." Morrison
did not call his model "Full State Funding," but his plan
had all the characteristics of this more modern day concept.
Of all the fifty States, only Hawaii is currently using "Full
State Funding" for allocating school funds.

Another of Morrison's precepts that has come into
favor by educational theorists is the financing of schools
through an income tax rather than a property tax. Court
cases have declared use of the property tax unconstitutional
if students are not provided with equality of educational
opportunity because of inequality of funds generated through
use of this tax. Johns and others wrote:

> The federal Elementary and Secondary Education
> Act of 1965 was enacted by Congress largely for the
> purposes of remedying some of the defects of the

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[1]Henry C. Morrison, School Revenue (Chicago, Illinois:
The University of Chicago Press, 1930)

American System of education that Morri.·∪n foresaw
if the states continued to rely largely on local
districts to perform state functions.[1]

In an unpublished study by the Education Commission

of the States, the following conclusions were reached:

The primary findings supported by this study is
that categorical compensatory aid from state and
federal sources studied enhanced educational expendi-
ture equity in the states. Increases in Title I or
state compensatory education spending using existing
formulas will narrow the expenditure gap between rich
and poor districts.[2]

Morrison's theories on school finance are being

studied with renewed interest as more states move toward full

State funding and the State and Federal resources are expanded

to play a more important role on the local school scene.

School Finance Incorporates Capital Outlay

During the growth of school finance plans, there was

little evidence that the problems of local schools in providing

building facilities received attention. Lindman says:

Throughout the nineteenth century relatively little
State action occurred in the field of school housing.
This was in part the result of the fact that active
State participation in the entire educational program
was in the process of development and little attention
had been given to plans for the distribution of State
aid. It was, also, and perhaps even more definitely
the result of the fact that school buildings were still

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[1]Johns, Alexander and Stollar, Status and Impact of
Educational Finance Programs, p. 13.

[2]Lawrence Vescera and Judy Collins, An Examination of
the Flow of Title I and State Compensatory Aid and Their Effect
on Equalization in Four States: Florida, New Jersey, New York
and Texas (Denver, Colorado: Education Commission of the
States, February, 1978), p. 22.

generally regarded as matters of local concern.
Throughout this century there was, therefore,
little, if any, thought given to specific State
aids for school housing. Despite these facts, it
should be noted that since many of the State funds
distributed to the local districts were not earmarked
for certain specific phases of the program, it is
probable that some State funds were actually used
for limited capital outlay and perhaps even for
debt service. . . .[1]

"New York State passed legislation pertaining to

school building construction in 1902. In 1903, it provided a

full-time inspector of school buildings."[2] "By 1910, thirteen

State departments of education and nine State boards of health

were exercising some control over school buildings.[3] By 1920,

only four states did not have some regulatory agency respon-

sible for school buildings.

The assumption of State control over public school

buildings and the establishment of State minimum standards

forced some states to make provisions for buildings, capital

outlays, and debt service, particularly in districts with

insufficient taxable property to provide buildings that met

State minimum standards without excessive local taxation.

According to Burke, many states required schools to set aside

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[1]Erick L. Lindman, et al., State Provisions for Financing School Capital Outlay Programs, Bulletin 1951, No. 6 (Washington, D. C.: U. S. Government Printing Office, 1951), p. 22.

[2]Ibid., p. 22.

[3]Arvid J. Burke. "Development of State Responsibility for School and College Buildings," The American School and University, Eighteenth Annual Edition, (1946): P. 44.

a portion of their funds for buildings in order to get State aid.[1]

As states began to assume more control over schools, it became apparent that a proliferation of schools existed, many of very low quality. In order to increase efficiency of operation, and to improve the quality of education, most states embarked on extensive consolidation programs. Lindman wrote, "The most important factor bringing a considerable number of states into the field of State aid for capital outlay was the desire to stimulate consolidation of school districts."[2]

Barr's research indicated that stimulation grants and State incentives were used in some states to encourage erection of school buildings and the consolidation of school districts. "States using incentives during the first quarter of the twentieth century were Alabama, Delaware, Minnesota, Missouri, Oklahoma, and South Carolina."[3] During the same period of time, North Carolina and Virginia made state loans to local districts to be used for school building construction.

Lindman wrote, "By 1921, approximately a dozen states had made some provision for financing capital outlay in districts which had consolidated." Minnesota led the way by

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[1]Ibid., p. 45.

[2]Lindman, State Provisions for Financing School Capital Outlay Programs, p. 23.

[3]Barr, American Public School Finance, p. 32.

paying one-fourth of the cost of a new building, but not to
exceed $1,500. Oklahoma paid half the cost of a new build-
ing, but not to exceed $2,500 in certain districts.[1]

Besides paying for a portion of the capital outlay
in a district, another incentive used to encourage district
consolidation was a payment for each school consolidation.
According to Lindman, this payment was made only once in some
States, and in others, the district continued to receive
payment annually. In 1921, Pennsylvania provided $200 for
each school closed. It was still paying this incentive to
consolidated districts in 1951 when Lindman conducted the
study.[2]

By the 1930's, equalization plans for capital outlay
began to be recommended as corollaries to the finance plans
that had evolved at the turn of the century. Mort recommended
adding to a district's State apportionment each year suffi-
cient funds to take care of the annually estimated capital
outlay item. He assumed that a mathematical formula could
be devised to allocate these funds, and that they would be
placed into a sinking fund for future building construction
or renovation.[3]

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[1]Lindman, State Provisions for Financing School Capital
Outlay Programs, p. 23.

[2]Ibid., p. 23.

[3]Paul R. Mort, A Plan for Equalizing Capital Outlay
and Debt Service (New York: Bureau of Publication, Teachers
College, Columbia University, 1926), p. 69.

Grossnickle studied the relationship between current expenses and capital outlay in the early 1930's.[1] A plan was developed by Jesse E. Adams that assumed depreciation on a district's school buildings could be accurately determined and disregarding educational obsolescence and plant extension needs, the district's capital outlay needs could be projected. Adams suggested that the State provide sinking funds to be built up annually by State appropriations over and above what districts could raise through a uniform tax rate.[2]

Baldwin believed that a uniform county tax should be levied, and that portion of debt service on a newly constructed building or plant above the amount that could be raised by this uniform tax be supplied by the State. His proposal recognized the factor of effort by requiring all districts to levy a uniform county tax with the proceeds to apply to their debt service. He also saw the need of placing capital outlay expenditures on an annual basis by urging uniform district bonding and combining State aid with debt service.[3]

In writing of the period prior to 1950, Johns indicated that,

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[1]Foster E. Grossnickle, Capital Outlay in Relation to a State's Minimum Educational Program (New York: Teachers College, Columbia University, 1931), p. 67.

[2]Jesse Adams, A Study in the Equalization of Educational Opportunities in Kentucky (Lexington, Kentucky: Bulletin of the University of Kentucky, 1928), p. 256.

[3]Robert Dodge Baldwin, Financing Rural Education (Stevens Point, Wisconsin: Rural Press, 1927), p. 169.

Even though title for school buildings may
legally reside with the State and education has
historically and legally been considered a State
function, the entire or a major portion of the
financial burden for providing housing for educa-
tional programs and students has been placed upon
the shoulders of the local school district in a
great number of States.[1]

Federal Funds for School Building Construction

Barr wrote that federal participation in the financ-
ing of public school facilities has been meager. During the
depression years and early war years, between 1933 and 1943,
about 12,500 public school buildings were partially financed
by the Public Works Administration and the Works Project Admin-
istration.[2] Johns stated that the Federal contribution during
this period was estimated at $611,000,000. His research indi-
cated that the Civil Works Agency and the Federal Relief Admin-
istration spent an estimated additional $63,500,000 on public
school construction and improvement.[3]

During World War II, one title of the Lanham Act pro-
vided funds for local school construction, and the Federal
Works Administration constructed buildings which were then
leased to local districts. The Lanham Act, according to Johns,
was extended through Public Law 815 to provide additional
capital outlay support for local school districts eligible

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[1]Roe L. Johns, Kern Alexander, and K. Forbis Jordan,
eds., Planning to Finance Education (Gainsville, Florida:
National Educational Finance Project, 1971), p. 249.

[2]Barr, American Public School Finance, p. 10.

[3]Johns, et al., eds., Planning to Finance Education,
p. 249.

for "impacted aid" due to the existence of federal installa-

tions for defense or military bases.[1] The parallel act,

Public Law 874, provided funds for the current operation of

such districts. Due to the lower priority of military

installations in the history of the United States at this

time, funds for Public Law 874 are still appropriated; how-

ever, funds to support Public Law 815 (the capital improvement

law), are receiving little priority.

Data from the National Center for Educational Statis-

tics showed that during the period from 1968 through 1970,

federal funds in the amount of $11.5 million were provided

to 330 school districts in disaster areas for school construc-

tion.[2] Since disaster aid is designed for replacing previously

existing facilities and because of the limited amount of funds

distributed, this resource cannot be considered a significant

federal contribution to school building construction across

the nation.

A limited number of federal resources are available

for public school capital outlay. These funds are controlled

by the Department of Housing and Urban Development, the Depart-

ment of Labor, and the Department of the Interior. Such funds

are allocated for specific purposes and are available to a

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[1]Ibid.

[2]National Center for Educational Statistics, "Federal
Outlay for Education and Related Activities by Category, Agency
and Program--Fiscal Years 1968, 1969, and 1970," (Washington,
D. C.: The Center, Office of Education, 1969).

very small number of school districts for building purposes.
Funds are allocated for planning, site acquisition, building
construction, and in some cases purchase of equipment for
buildings.

The purpose of this particular section of the review
of the literature was to show that federal funds for capital
improvements have not been generally available to school dis-
tricts. Further consideration of any form of school facility
equalization must then deal with State and local funds to the
exclusion of federal sources.

School Finance Equalization Models

Any study that deals with distribution of funds from
local or State sources for education must consider the inte-
gral nature of funds for operation as well as capital improve-
ment. As more funds are put into brick and mortar for build-
ings, it appears to follow that less money is available for
school supplies, utilities, teacher salaries, and all the
other expenses involved in providing an adequate educational
program. Because of this interaction between capital improve-
ment funds and money for operation of the school, it was vital
to consider the various models used in allocating funds for
schools.

The early efforts at equalization models proposed by
Cubberly, Updegraff, Strayer and Haig, and Mort were reviewed
previously in this paper. Many of the concepts that were pro-
posed in the early 1900's are a part of the current distribution

formulas in many states. An overview of current allocation

models was very important. This presentation was made because

selection of one allocation model over another is believed

to influence the techniques for providing funds for building

construction.

In Rodriguez v. San Antonio Independent School

District, the court declared that the State must observe the

"principle of fiscal neutrality." In making this statement,

the court declared that, ". . . the State may adopt the

financial scheme desired so long as the variations in wealth

among the governmentally chosen units do not affect spending

for the education of any child."[1]

The "principle of fiscal neutrality" is important in

the language of the court in its opinion in Serrano v. Priest.

The court said:

> . . . discrimination on the basis of district
> wealth is . . . invalid. The commercial and industrial
> property which augments a district's tax base is dis-
> tributed unevenly throughout the State. To allot more
> educational dollars to the children of one district
> than to those of another merely because of the fortui-
> tous presence of such property is to make the quality
> of a child's education dependent upon the location of
> private, commercial, and industrial establishments.
> Surely, this is to rely on the most irrelevant of
> factors as the basis for educational financing.[2]

Odden indicated that there are different definitions

of financial equity in school finances. Fiscal neutrality

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[1]Rodriguez v. San Antonio Independent School District,
337 F. Supp. 280 (W. D. Tex., 1971).

[2]Serrano v. Priest, 5 Calif. 3rd 615, 96 Calif. Rptr.
601, 487 P. 2nd 1241 (1971)

is not concerned with expenditure per-pupil differences per
se, but requires only that expenditures per-pupil differences
not be related to differences in local school district fiscal
ability."[1]

Odden discussed the concept of expenditure per-pupil
equality that requires the expenditures per pupil, after
adjustments for different education costs and pupil needs,
be equal across all school districts in a State. This stan-
dard is concerned with the expenditure per-pupil and requires
the reduction or elimination of any differences in expendi-
tures that exist in a State.[2]

In recognizing the need for study of school finance
across the nation, the federal government responded by pass-
age of Public Law 93-380, Section 842. This law provided
funds for individual states to conduct studies of existing
school finance plan and to make recommmendations to the State
legislature for modification of school codes to more nearly
meet the standards of fiscal neutrality and expenditure per-
pupil equality. Announcement of available funds was made
in the Federal Register on June 25, 1976.[3] States wishing
to receive funds under this law must have completed studies
by September, 1978.

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[1]Allan Odden, School Finance Reform in the States:
1978 (Denver, Colorado: Education Commission of the States,
June, 1978), p. 15.

[2]Ibid.

[3]U. S., Federal Register, Vol. 41, No. 124, Part II
(June 25, 1976), Supt. of Documents (Washington, D. C.: U. S.
Government Printing Office).

The success of various State plans in meeting the fiscal neutrality requirement can be measured through correlational studies between local property wealth and expenditure levels. As long as correlations between these two factors remain high, i. e., poor wealth districts showing low expenditures and high wealth districts showing high expenditures, then fiscal neutrality has not been achieved.

The Serrano case of California, the Rodriguez case in Texas, and the Dusartz case in Minnesota led the way to appropriation of federal funds for study of school finance across the nation. The next step was to observe the results of the studies and how legislatures deal with the results of the studies. Benson and Shannon wrote:

> Public education may not be conditioned upon the wealth of a neighborhood, city or a region of the State: It is a State function and may be based only upon the wealth of the entire State. In short, the "principle of fiscal neutrality" will be incorporated into every page and paragraph of the new school finance laws to guarantee that the tax revenue to support public school operation will be available to all school districts on an equal basis throughout the State.[1]

The court pointed out in Rodriguez that the concern was not with the techniques used in allocating funds, but in the final result, i.e., that the standards of fiscal neutrality and equality of educational opportunity must be met by the methods that are used.

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[1]Charles Benson and Thomas A. Shannon, Schools Without Property Taxes: Hope or Illusion (Bloomington, Indiana: Phi Delta Kappan Educational Foundation, 1972), p. 17.

Odden indicated that at least four major issues related to school finance equalization must be considered. These are:

1. Definitions of equalization, including different concepts of equality in school finance.

2. Wealth equalization and the growing body of research that is showing that wealth equalization is more complicated than previously considered.

3. Pupil-need equalization and the attempts to provide additional services to high-cost student populations.

4. Cost equalization and the possibilities for modifying school aid formulas for the varying purchasing power of the educational dollar across school districts within the State.[1]

As states begin to study their school finance laws and formulas for distribution of aid to schools, three basic plans and various hybrids of these plans are being considered.

Full State Funding

Morrison proposed full State funding in 1930, but at that time the foundation model was so strong that it gained little attention. Full State funding has recently gained in popularity because it seems to meet the test of fiscal neutrality if all essential costs are absorbed by the State.

Some economists believe that even though property tax has the fault of being regressive in nature, it is still an important source of revenue, and one too important to

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[1]Allan Odden, School Finance Reform in the States: 1978, p. 14.

abandon without a good deal of study. Full State funding allows for continued reliance on the property tax with the State and not a locality or district setting the rate.

Power Equalizing

A program for State-local sharing in current operating expenses is district power equalizing. This plan was described by Updegraff in 1919 as a possible distribution system for school resources. Updegraff had described this system as "percentage equalizing," but when it was revived by James Coons, William Clune, and Stephen Sugarman in Private Wealth and Public Education, it was called "district power equalizing." Because of the connotations associated with "power" and "equalizing," the terms used in describing this system of allocation of funds is now "local guaranteed yield" (LGY) and "guaranteed tax base" (GTB), according to Guthrie.[1]

Power equalizing has as its basic tenet that at any given tax rate, every school district in a State, regardless of wealth, has the same dollar resource level per pupil as any other district. This concept seems ideal until individual districts are considered, and the cost of bringing spending up to the level of the wealthiest district in the State is calculated. When one considers the opposite extreme, bringing the highest spending district down to the

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[1]Guthrie, Equity in School Financing, p. 6.

level of the poorest district in the State, the problems that
result are neither politically nor educationally defensible.
This effect is referred to as leveling up and leveling down,
and the net result can be lowering of educational standards.

Certain safeguards are generally built into such a
program to protect the State treasury, protect individual
school districts, and to allow for extra efforts. These safe-
guards are built into the program so that the State which is
vulnerable (depending on the tax rate various districts are
willing to pay), sets a ceiling or develops penalties as the
ceiling is exceeded. Districts are protected by developing
a floor below which no district is allowed to spend. A
recapture clause may be built into the system that causes
all funds collected above the ceiling to revert back to the
State treasury, or a set percentage to revert back to the
State for reallocation.

Fiscal neutrality is built into this system, but edu-
cational opportunity is only guaranteed at the "floor" level
of the program.

Foundation Program

The foundation program proposed by Strayer and Haig
in the early 1900's is utilized in a number of states for
allocation of funds to schools. This system is used for
funding current operating expenses and guarantees a fixed
amount of resources per child or other unit of measurement
in districts that make a uniform local tax effort. After

local taxes are collected, this amount is deducted from the
guaranteed foundation level, and the State makes up the
difference in each district. Such grants from the State
tend to equalize funds among districts because the State
subsidy is inversely related to local capacity. In many
states, schools are allowed to raise money above the guaran-
teed base, and very rich school districts may raise more
money per child with a much smaller tax rate than would be
received by a poor school voting maximum millage--depending
on the State to provide the remainder of the guaranteed base.

Other Models for Distribution

of School Funds

Various modifications and hybrids of the three most
used systems are utilized in allocating State aid. These
include options such a flat grants to districts based on a
standard distribution unit. The assumption in this model is
that districts can provide an acceptable program, and that
the flat grant will provide resources for development of a
quality program. The result of such programs has been that
the rich districts get richer, and the poorer districts remain
poor.

Other allocation programs have been used for distri-
buting State aid. Some programs were designed to motivate
the school district to vote additional millage at the local
level, others provided for a foundation with categorical flat
grants, and there were still other hybrids of the basic programs.

Current Practices for Allocation of

Funds for Capital Improvements

The historical practice of supporting building construction at the local level is slowly giving way to pressures for equalization in this area as well as operating costs. During the early 1900's, school finance formulas were being studied carefully and almost as an addendum, a move began to include capital improvements.

During the present decade, school finance formulas were again being studied. This resulted from the great number of court cases declaring State school finance methods unconstitutional because they did not meet the fiscal neutrality principle or the "thorough and efficient" clause as expressed in the New Jersey Supreme Court decision of Robinson v. Cahill.

Not only are school finance formulas for distribution of operating funds being considered, but funds for capital outlay are coming under close scrutiny. Wilkerson wrote, "Capital outlay and debt service requirements vary much more widely among school districts within a State than do requirements for current expenditures."[1]

In writing of the inequality that exists in capital improvements, Guthrie said,

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[1]William R. Wilkerson, "Problems and Issues of Fiscal Neutrality in Financing School Construction," Bloomington, Indiana, June, 1973. (Mimeographed.)

While present-day State aid systems seldom
equalize the wealth disparities between local dis-
tricts for operating regular school services, school
construction costs are left to an even more haphazard
scheme of State aid. Some districts are able to con-
struct and maintain magnificent buildings simply by
using excess funds from current operating budgets.
Conversely, some low-wealth districts have to bond
themselves to the legal limit in order to construct
minimally adequate facilities.[1]

In a 1967 study of school finance in Oklahoma, Burdick

indicated that "The State fiscal plan should include objective

procedures to provide adequate funds for operating expenses,

capital outlay, and debt service payments."[2]

Many states are beginning to consider modifications

in the current allocation of funds for both operation and

capital improvements in schools. In a recent projection of

needs in the State of Oklahoma, covering the period from

fiscal year 1977 through fiscal year 1982, the following

statement was made, "Educational problems cannot all be solved

with extra money, but extra construction funds can indeed help

considerably to improve the facility equalization status for

those schools with curtailed or insufficient resources."[3]

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[1]Guthrie, Equity in School Financing: District Power
Equalizing, p. 14.

[2]Larry Gene Burdick, "A Distribution Program for State
Support of Current Expense for Public Education in Oklahoma"
(Ph.D. dissertation, Oklahoma State University, 1967), p. 5.

[3]Oklahoma, State Department of Education, Common Educa-
tion, Five Year Projected Program (FY--1976), p. 21.

Augenblick reviewed various systems of State support for financing capital expenditures in a recent study of capital outlay and debt service in Missouri. He found states financing capital outlay as follows:

1. Fifteen states, including Iowa, Kansas, Nebraska, and Oklahoma, have no system of providing State support for capital expenditures.

2. Four states, including Arkansas, provide only loans to districts for building purposes, usually at State subsidized interest rates.

3. Seven states currently share to some extent in meeting building costs. In these states, State aid provides a fixed proportion of the costs for an approved project.

4. Nine states provide funds for capital purposes on a flat grant per pupil basis.

5. Three states, Florida, Hawaii, and Maryland have taken it upon themselves to assume the burden of providing appropriate school facilities and to equalize the burden of the districts.

6. Eleven states currently utilize formulas for the distribution of State capital aid that are intentionally designed to equalize the burden districts face in providing their share of support.

7. One State utilizes a guaranteed tax yield type program to promote equalization by guaranteeing to provide an amount per pupil per mill of local tax effort up to a limited level of effort.[1]

Because of decreased enrollments in public schools, one might assume that there would not be the need for additional construction, but this is not the case. School enrollments are growing in certain areas, buildings are outdated in

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[1]John Augenblick, assisted by Lora Lee Rice, "An Analysis of State Support for Capital Outlay and Debt Service Expenditures in Missouri," (Denver, Colorado: Education Commission of the States, February, 1978), p. 7-8. (Mimeographed.)

other areas, and in still others, a great deal of remodeling
needs to be done. The subject of construction of building
facilities is very much a part of the school scene today.

Birch and Johnstone wrote:

> The behavorial sciences and life itself, provide
> ample evidence that learning and growth are deeply
> affected by the environment in which they take place.
> Viewed in that light, the contents of a child's edu-
> cation is made up of everything that happens to him
> from the moment he enters the schoolhouse to the
> moment he leaves.[1]

In Designing Schools and Schooling for the Handicapped,
a description of a functional school is given as follows:

> The main function of the school building and its
> surrounding area is to provide an appealing and helpful
> environment for learning. Therefore; space, movement,
> comfort, and esthetic appeal are significant. The
> plant should be comfortable, easy to maintain and safe.
> The total design should be bold and imaginative and
> proclaim the identity of the school.[2]

The importance of pleasant, functional, and adequate
facilities cannot be over-emphasized. Such facilities must
be viewed not only from the standpoint of learning, but from
an economic outlook.

Chiswick wrote that certain economic gains can be
made for individuals and for the country through increased
educational opportunity.

> Schooling produces particular benefits for
> people and places with fewer socioeconomic resources.
> In those areas with less economic development, schooling

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[1]Jack W. Birch and B. Kenneth W. Johnstone, Designing
Schools and Schooling for the Handicapped (Springfield, Illi-
nois: Charles C. Thomas, 1975), p. 11.

[2]Ibid., p. 196.

has a particular ability to increase incomes, thus areas with low income and low schooling are places where educational investments and schools have a particular ability to produce a high rate of returns when one compares marginal incomes and marginal schooling.[1]

Because of the necessity of providing adequate facilities to promote learning, and because education is important in the economic stability of the State and country, it seems that the State is obligated to provide leadership and funds to assure the success of all schools. Barr and others advocated the concept of State support:

> Legal responsibility for all aspects of education reside with each State: therefore, the State through its legislature and various State agencies should have a high level of interest in concerns associated with adequate educational programs, adequate school facilities, adequate fiscal and technical support, quality control, and fiscal accountability.[2]

Barr and Wilkerson wrote that there were three criteria that motivate states to become involved in capital improvement efforts. They indicated that, "Increases in enrollment, the status of school district reorganization, and the nature of the facility are among the elements considered in some states to determine the need for State subventions."[3]

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[1] Barry R. Chiswick, "Human Capital: The Distribution of Personal Income: (Ph.D. dissertation, Columbia School of Education, 1967), p. 43.

[2] W. M. Barr, et al., Financing Public Elementary and Secondary School Facilities in the United States, special study number 7, National Educational Finance Project (Bloomington, Indiana: Indiana University, 1970), p. 228-229.

[3] W. M. Barr and William R. Wilkerson, Innovative Financing of Public School Facilities, (Danville, Illinois: The Interstate Printers and Publishers, Inc., 1973), p. 8.

Capital Improvement Practices in Oklahoma

Factors which influence development of adequate school facilities include: district wealth, State plans for capital improvement, and limitations on debt service. In Oklahoma, State law regulates the bonded indebtedness that school districts can incur. There is a ceiling of ten percent of the valuation of the taxable property in the district on which bonds may be issued. There is a State law which influences the outcome of elections for bond purposes in Oklahoma. This law requires that sixty percent of the voters in such an election must vote positively in order for the election to be certified as approved.[1]

Because of low wealth in many of the districts in Oklahoma, and because of the limitation on indebtedness, it is difficult for some districts to build even minimal quality buildings. Another factor that influences the quality of buildings that can be constructed is the unequal assessment levels across the various counties. In their monograph, Financing Education In Oklahoma, Parker and Pingleton wrote,

> Throughout Oklahoma, the tax varies by counties and the rates have varied exorbitantly in the past. The county assessor, an elected official, has determined through his assessment practices the rate at which the property of the county was taxed. An Oklahoma Supreme Court decision (1976) required that the property not be taxed at less than nine percent nor more than

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[1]Oklahoma, School Laws of Oklahoma, 1976, art. 3, sec. 423.

fifteen percent. Counties have three years in which
to adjust assessment practices to this schedule, but
some counties are behind schedule.[1]

One last legal requirement on erecting public build-
ings was found in Article IV, Section 474 in the School Laws
of Oklahoma. This section described a five-mill levy which
is usually voted at the annual school election. This levy,
commonly known as the building fund levy, is voted on by
most districts, and can be used for erecting, remodeling or
repairing school buildings, and for purchasing furniture.
Because of the lack of specificity of purpose for funds pro-
duced by this five-mill levy, districts seldom construct
buildings with this income as the prime source. Most dis-
tricts use the five-mill building fund for the upkeep of
buildings, purchase of equipment, furniture, or payment of
salaries of maintenance and janitorial personnel.

It is legal to place the building funds into a savings
account and allow it to accumulate to a level that will allow
construction of a new building or for completion of a remodel-
ing project. The problem with this procedure is the small
amount of income generated in poor districts, and the fact
that it is needed each year in order to keep the school opera-
tional.

It has been shown through the search of the literature
and the school laws of Oklahoma that very little notice is

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[1]Jack Parker and Gene Pingleton, Financing Education in
Oklahoma, 1978-79 (Oklahoma City, Oklahoma: Oklahoma State
School Boards Association, 1978), p. 6.

taken by the State in the construction of school buildings.
This would lead one to assume that school building practices
in Oklahoma are influenced by the wealth of the individual
districts. This study considered the factor of wealth as it
related to buildings that existed in selected secondary
schools in the State of Oklahoma.

In writing of the importance of school facilities,
Garms and others stated,

> We know that minimum provision is essential, but
> we do not know how much additional provision will yield
> commensurate returns in increased education. The result
> is that schools will continue to be designed and built
> based on community standards and the pressures of con-
> cerned teachers, administrators, and parents, rather than
> on scientific benefits-cost analysis of alternatives.[1]

In Oklahoma as well as other states, the importance of
building facilities to education is not understood. The liter-
ature is not well developed in this area of education. Specif-
ically in Oklahoma, few studies have been made to consider
school facilities. Thus, there is little research that allows
one to consider the quality or the quantity of school facili-
ties available.

This study was not designed to be a comprehensive study
of school facilities in Oklahoma, but rather a tool to investi-
gate the quality of selected schools, and to point the way to
further studies and eventual movement toward the concept of fis-
cal neutrality in capital improvement resources in the State.

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[1]Walter I. Garms, James W. Guthrie, and Lawrence C.
Pierce, School Finance: The Economics and Politics of Public
Education (Englewood Cliffs, New Jersey: Prentice-Hall, Inc.,
1978), p. 364.

CHAPTER III

DESIGN OF THE STUDY

Methodology

The population for this study included all the secon-
dary schools in the State of Oklahoma with memberships between
300 and 800 as of October 1, 1976. There were 89 secondary
school districts during the academic year of 1976-77 that
met this criterion. (Appendix A) These school districts
were ranked on the basis of per capita valuation for 1976-77.
The 89 secondary school districts were divided into three
categories. The 30 wealthiest districts were classified as
high wealth districts, the 29 districts in the middle range
were classified as average wealth districts, and the 30 dis-
tricts in the lower range were classified as low wealth dis-
tricts. From each of the three categories, eight school dis-
tricts were randomly selected. One limitation on the sample
was that each school district selected have grades nine
through twelve at one site utilizing the same school building
facilities. The selection was accomplished by using a table
of random numbers and selecting another school from the sam-
ple if the limitations were not met.

The result of this procedure was the selection of 24 school districts in 19 counties with secondary memberships (grades nine through twelve) between 300 and 800. These 24 districts made up a stratified random sample of eight schools from the high wealth classification, eight schools from the average wealth districts, and eight from the low wealth districts. (Appendix B)

After the 24-school sample was selected, the district superintendent of each of the schools was contacted by letter requesting permission to conduct a building survey. The letter also included a form to be completed and returned granting permission to conduct the survey. Enclosed with the letter was a self-addressed, stamped envelope and a letter of explanation that the superintendent could sign and forward to a principal or other person in the school that would be helping with the building survey. (Appendix C)

The first mailing of the request form produced a return of 70.8 percent response. After two weeks, another mailing to those schools that had not responded resulted in a total of 87.5 percent response. At that time, three schools had not responded. These were called by telephone and permission was received to conduct the building survey. At that point, all 24 schools had responded in a positive manner for 100 percent response to the request to do a building survey.

A survey instrument was designed for the purpose of surveying the high school building alone, the classroom and

laboratory facilities, the vocational education facilities,
and the facilities not a part of the academic departments.
In addition, the instrument was designed to collect data on
bonding history, building history, changes in district wealth,
and other factors that would provide information on educational
facilities and educational opportunity in each district.
(Appendix D)

The survey instrument was developed after reviewing
the literature on facility planning and evaluation. No attempt
was made to validate the survey instrument since it was designed
only for comparison purposes between the 24-school sample. The
graduate committee for the study, and specifically the major
advisor, reviewed the instrument and made suggestions. Con-
sideration was given to the technique of submitting the instru-
ment to a panel of expert judges for validation, but it was
agreed that each of the 24 schools in the sample would be sur-
veyed on the same basis and this technique was not required.

The next step in the research process was to visit
each of the 24 schools in the sample and conduct the survey.
In order to add reliability to the study, the designer of the
survey instrument went to each of the 24 schools and personally
conducted the study in each school. This was accomplished
over a two-month period. In order not to bias the study, no
totals were completed on the survey forms until all schools
had been surveyed.

Notes were made pertaining to observations at each
school. This set of notes for each school was made because

each school is unique, and observations were made concerning administrative practices, board policies, special sources of revenue, and other factors that would later be used in the analysis of the data.

Restatement of the Problem
and Hypotheses

The problem of this study was to investigate the relationships among the wealth in certain Oklahoma school districts, the building facilities and factors related to the quality of education they provide.

In order to study this problem, five hypotheses were developed. They were as follows:

Ho_1 There is no statistically significant difference in the quality of the high school building facilities in a district and the units of approved high school work.

Ho_2 There is no statistically significant difference in the quality of the high school building facilities in a district and the membership in grades nine through twelve.

Ho_3 There is no statistically significant difference in the quality of the high school building facilities in a district and the number of kinds of extra-curricular activities available to students.

Ho_4 There is no statistically significant difference in the quality of the high school building facilities in a district and the assessed value of the public service property in the district.

Ho_5 There is no statistically significant difference in the quality of the high school building facilities in a district and the net assessed valuation of the district.

Treatment of the Data

The Pearson product-moment correlation (r_{XY}) was used to analyze the data collected on the survey forms. This statistic was selected because the research design led to a study of the way in which two variables relate to each other. Each of the five hypotheses to be tested consisted of two sets of variables. In each case, the quality of the high school building facilities, as evaluated on the survey form, was the independent variable. The dependent variables consisted of units of high school work, high school membership, number of kinds of extra curricular activities, assessed value of public service property in the district, and the total net assessed valuation of the district. Glass and Stanley describe this calculation and the interpretation of the results.[1]

The Pearson product-moment correlation (r_{XY}) between two sets of variables results in one number whose range is -1 to +1. A coefficient of +1 indicates a perfect positive association between two variables, so that when one increases, the other always increases by a predictable amount. A coefficient of -1, indicates a perfect negative association, so that

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[1]Gene V. Glass and Julian C. Stanley, _Statistical Methods in Education and Psychology_ (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1970), p. 109-116.

when one variable increases the other always decreases by a predictable amount. If the correlation coefficient is zero, there is no predictable association between the variables-- it is purely random.

The stability of a correlation coefficient is dependent on the number in the sample. The greater the number in the sample, the greater the stability of the predictions that can be made from the correlation coefficient. The confidence that can be placed upon a correlation coefficient depends on the number in the sample and the size of the absolute value of the correlation coefficient--remembering that the largest the absolute value can become is 1.

To determine the significance level (α) for a correlation coefficient it is necessary to determine the number of degrees of freedom (df) for the sample, and to use a table of critical values such as that in Glass and Stanley.[1]

The degree of freedom for a sample in a correlation is determined by subtracting two from the number in the sample, (df = n - 2) and using this figure to enter the table of critical values. For the sample of 24 in this study, the degree of freedom is 22.

Utilizing the table of critical values and the degree of freedom of 22, it can be determined that any correlation coefficient, (r_{xy}) is significant at the .05 level if its absolute value exceeds the tabled value of 0.404. Likewise,

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[1]Ibid., p. 536.

if the absolute value of r_{xy} exceeds 0.515 for this sample

of 24, the correlation is significant at the .01 level.

The computer facilities at the University of Oklahoma

were used to run the calculations on the data from the survey

forms. The Conversational Statistical Package was used, and

specifically the program designated as cl (csp) ip11. This

program was used because it had the capability of generating

a correlation matrix, scatter plots, means, standard devia-

tions, maximums and minimums, and ranges.

Techniques for Displaying the Data

The data for this study was presented in three tables.

Table I contains a summary of the data collected by the eval-

uator on the survey instrument. (Appendix D) Table II includes

information on the number of units of high school course work

offered at each of the high schools, the combined membership

of grades nine through twelve in each of the schools, and the

number of kinds of extra-curricular activities. Table III

contains data on the value of the public service property in

each district and the net assessed valuation of the school

district.

The Pearson product-moment correlations from the com-

puter generated correlation matrix were presented in Tables IV

and V. Computer generated scatter plots were used in the ana-

lysis of the data. These plots are displayed in Figures VI

through X with the independent variable--the building facility

score--on the horizontal (X) axis. The dependent variables--

high school units offered, membership, number of kinds of extra-curricular activities, public service valuation, and net assessed valuation--were displayed on the vertical (Y) axis. In addition, the descriptive statistics; means, standard deviations, maximums, minimums, and ranges were presented.

CHAPTER IV

PRESENTATION AND ANALYSIS OF THE DATA

Introduction

The problem of this study was to investigate the
relationships among the wealth in certain Oklahoma school
districts, the building facilities and factors related to
the quality of education they provide.

The purpose of this chapter was to present the
results of the statistical analysis of the data in the study.
In analyzing the data, the same pattern was used to consider
each of the five questions in the study. The hypothesis was
stated, and a discussion of the Pearson product-moment corre-
lation was presented.

In testing the significance levels of the correlation
coefficients associated with each of the hypothesis as well
as all the numbers in the correlation matrix, the same values
can be used. Any coefficient whose absolute value was greater
than 0.404 is significant for the 24-school sample at the .05
level. For the same sample, any coefficient whose absolute
value was greater than 0.515 is significant at the .01 level.

A narrative was presented covering observations made
by the evaluator at the various school sites that have a

TABLE I

SUMMARY OF DATA COLLECTED IN HIGH SCHOOL
FACILITY SURVEY--1978

School Code	H S Bldg (Only)	Dept Eval	Fac Not Part of Acad Dept	Local Voc Bldg	Tot Bldg Score
A	52	131	98	50	331
B	28	110	69	80	287
C	41	135	91	84	351
D	75	155	163	35	428
E	59	209	135	35	438
F	69	160	155	60	444
G	62	160	139	40	401
H	58	160	120	75	355
I	58	159	117	50	384
J	60	130	146	38	374
K	77	158	150	80	465
L	48	134	135	55	372
M	74	148	175	55	452
N	54	190	138	125	507
O	92	170	200	40	502
P	47	169	129	0	345
Q	77	175	152	40	444
R	71	178	157	40	466
S	87	180	190	140	597
T	96	180	195	80	551
U	70	153	215	133	571
V	90	180	218	40	528
W	82	180	175	40	477
X	93	220	200	20	533

TABLE II

SUMMARY OF SCHOOL DISTRICT DATA USED IN THE STUDY

School Code	Number of High School Units Offered*	Membership in Grades 9-12 (10/1/1976)**	Number of Extra-Curricular Activities***
A	69	404	26
B	62	569	25
C	84	691	30
D	71	416	21
E	50	338	22
F	70	316	20
G	63	478	23
H	62	496	24
I	62	324	20
J	53	410	22
K	72	434	20
L	60	470	20
M	69	423	25
N	82	388	28
O	66	550	28
P	60	505	23
Q	48	317	25
R	58	349	27
S	77	341	29
T	64	610	26
U	82	438	30
V	53	412	20
W	48	325	23
X	58	399	25

*Oklahoma, Department of Education, Annual Bulletin for Elementary and Secondary Schools, July, 1977.

**Oklahoma, Department of Education, Membership Roster, October 1, 1976.

***Data collected from the contact person at each school site by evaluator conducting the school surveys.

TABLE III

SUMMARY OF SCHOOL DISTRICT DATA USED IN THE STUDY

School Code	Public Service Property Value in District (dollars in millions)	Net Assessed Valuation of District (dollars in millions)
A	.55	2.85
B	2.44	5.96
C	1.67	7.20
D	1.83	4.78
E	1.62	3.41
F	2.23	3.80
G	1.34	5.83
H	1.45	4.80
I	1.34	4.42
J	.56	5.31
K	1.16	5.39
L	1.88	6.99
M	1.87	7.31
N	2.72	7.23
O	3.86	10.24
P	1.91	9.62
Q	5.21	8.10
R	2.54	8.50
S	2.31	9.91
T	5.19	16.44
U	2.38	12.49
V	12.80	15.09
W	3.42	15.04
X	20.60	24.28

Source: Oklahoma, State Department of Education, Annual Report, 1976-77.

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TABLE IV

CORRELATION MATRIX*
(part 1)

	High School Building Only	Departmental Evaluation	Non-Academic Facilities	Local Vocational Buildings	Total All Facilities
High School Building Only	1.0000	0.6137	0.8929	-0.0430	0.8301
Departmental Evaluation	0.6137	1.0000	0.5520	-0.1359	0.6588
Non-Academic Facilities	0.8929	0.5520	1.0000	0.0637	0.8915
Local Vocational Buildings	-0.0430	-0.1359	0.0637	1.0000	0.3778
Total All Facilities	0.8301	0.6588	0.8915	0.3778	1.0000
High School Units	-0.1538	-0.2516	-0.0499	0.7153	-0.1658
Membership Grades 9 - 12	-0.2656	-0.3980	-0.2363	0.1075	-0.2754
Extra-Curricular Activities	0.0290	0.0419	0.0958	0.5380	0.3024
Public Service Valuation	0.5226	0.5719	0.5087	-0.2478	0.4449
Net Assessed Valuation	0.6189	0.5457	0.6679	-0.0629	0.6199

Source: Conversational Statistical Package, cl (csp) ipl1

*All numbers represent Pearson product-moment correlations (r_{XY}).

TABLE V

CORRELATION MATRIX*
(part 2)

	High School Units	Membership Grades 9 - 12	Extra-Curricular Activities	Public Service Valuation	Net Assessed Valuation
High School Building Only	-0.1538	-0.2656	0.0290	0.5226	0.6189
Departmental Evaluation	-0.2516	-0.3980	0.0419	0.5719	0.5457
Non-Academic Facilities	-0.0499	-0.2363	0.0958	0.5087	0.6679
Local Vocational Buildings	0.7153	0.1075	0.5380	-0.2478	-0.0629
Total All Facilities	0.1658	-0.2754	0.3024	0.4449	0.6199
High School Units	1.0000	0.3359	0.5170	-0.2729	-0.1684
Membership Grades 9 - 12	0.3359	1.0000	0.3406	-0.0666	0.0874
Extra Curricular Activities	0.5170	0.3406	1.0000	-0.0105	0.2387
Public Service Valuation	-0.2729	-0.0666	-0.0105	1.0000	0.8300
Net Assessed Valuation	-0.1684	0.0874	0.2387	0.8300	1.0000

Source: Conversational Statistical Package, cl (csp) ipli.

*All numbers represent Pearson product-moment correlations (r_{XY}).

bearing on the particular hypothesis under consideration.
A scatter plot and other statistical data was presented for
further consideration of each hypothesis.

Results of Testing Null Hypothesis
Number One (Ho_1)

The hypothesis was that there is no statistically
significant difference in the quality of the high school
building facilities in a district and the units of approved
high school work.

The Pearson product-moment correlation coefficient
for the high school building facilities scores and the num-
ber of units of approved high school work is -0.1658. This
value was not significant at the .05 level.

Special Notes: This hypothesis may not be as impor-
tant as was believed early in the study. Factors that must
be considered that may affect the usefulness of this hypothesis
were:

1. The State of Oklahoma mandates a great deal of the
   curriculum in schools with enrollments of 300 or
   larger in the top four grades.

2. Some schools were involved in vocational-technical
   education in the home district. Others sent all
   vocational-technical students to area schools. In
   this study, credits offered locally appeared as a
   part of the study, but credits offered at the area
   schools were not considered in the study.

FIGURE I

TOTAL BUILDING SCORE V. HIGH SCHOOL UNITS OF WORK

```
High School Units of Work
84 +        *                              *              *
   .
   .
   .
   .                                                          *
78 +
   .
   .
   .
72 +                                *    *
   .                              *
   .                                *
   .        *
66 +                                                *
   .                                                    *
  .*              *    *      *
60 +            *      *                *              *
   .                              *
   .
   .
54 +              *                          *
   .
   .
   .                        *
   .                      *      *
   +. . . . . +. . . . . +. . . . . +. . . . . +. . . . . +
   287      349        411        473        535        597
                 Total Building Score
```
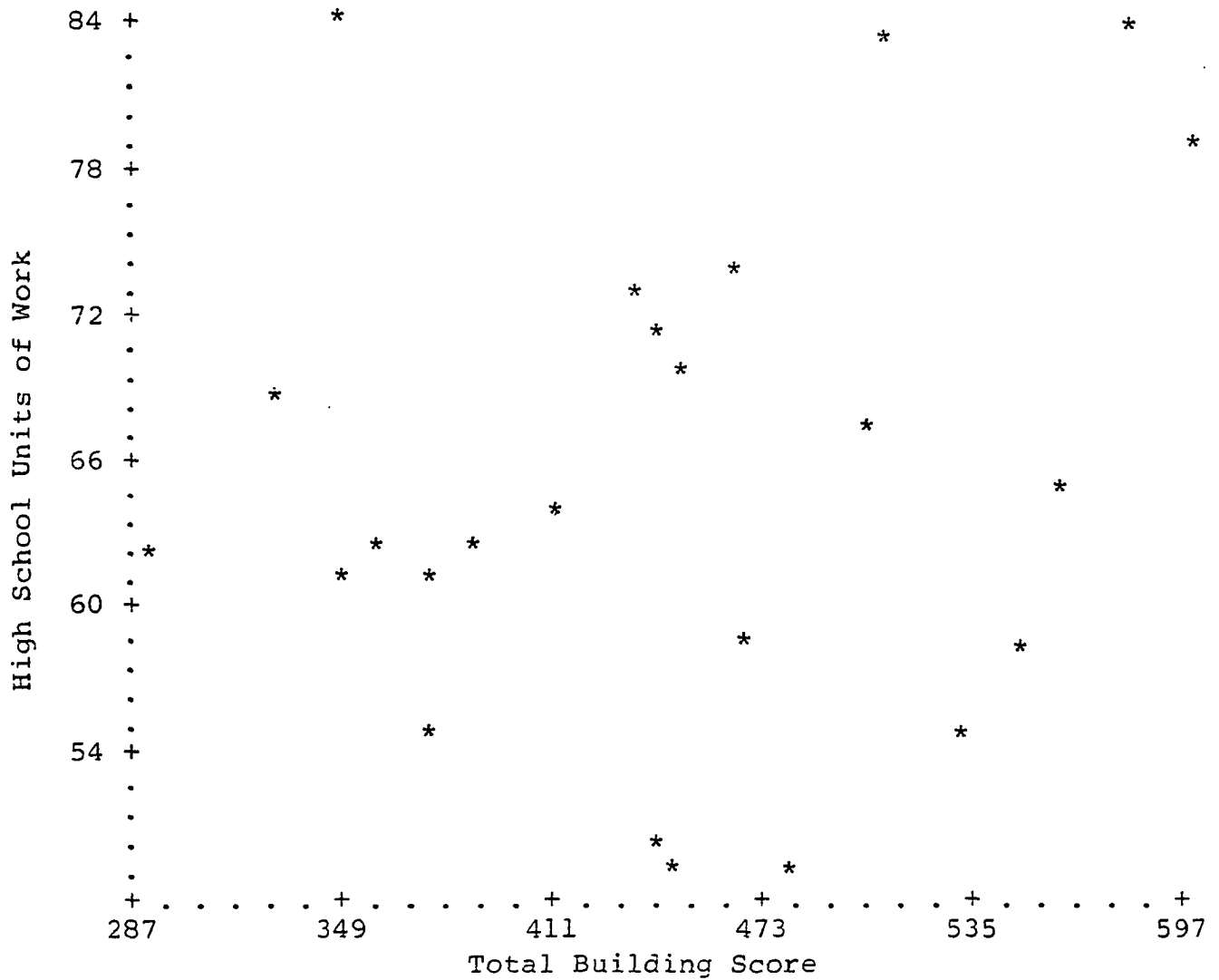
Descriptive Statistics

	Total Building Scores	High School Units
Mean	441.96	64.29
Standard Deviation	82.26	10.39
Maximum	597.00	84.00
Minimum	287.00	48.00
Range	310.00	36.00

3. It was observed that as memberships increased from smaller to larger schools, the kinds of classes did not increase proportionally, but there was a substantial increase in the number of sections of a particular class.

4. In further consideration to this hypothesis, it would appear that more value should be given to quality rather than quantity of offerings.

Results of Testing Null Hypothesis Number Two (Ho$_2$)

The hypothesis was that there is no statistically significant difference in the quality of the high school building facilities in a district and the membership in grades nine through twelve.

The Pearson product-moment correlation coefficient for the high school building facilities scores and the membership in grades nine through twelve is -0.2754. This value was not significant at the .05 level.

Special Notes: Memberships in schools in Oklahoma the size of those in the study seemed to be either stable or growing. In many of the small schools within easy driving distance of larger cities, school membership was increasing rapidly. In 25 percent of the school sample studied, chief school administrators expressed concern about this rapid growth, and how it affected their long range planning for building construction.

A major problem with this rapid growth is the manner in which the State calculates State aid (on average daily

FIGURE II

TOTAL BUILDING SCORE V. MEMBERSHIP IN GRADES 9-12

```
691 +        *
    .
    .                      .
    .
    .
628 +                                              *
    .
    .
    .
    .  *
566 +
    .
    .
    .
    .          *
504 +            *
    .
    .        *        *
    .
    .                          *                    *
441 +                    *
    .                 *
    .  *      *      -*                  *
    .                                        *
    .                              *
378 +
    .
    .                   *      *
    .                 *      *
    .         *                                      *
    +  .  .  .  .  +  .  .  .  .  +  .  .  .  .  +  .  .  .  .  +  .  .  .  .  +
   287           349           411           473           535           597
```

Total Building Scores

Descriptive Statistics

	Total Building Scores	Membership Grades 9-12
Mean	441.96	433.46
Standard Deviation	82.26	98.52
Maximum	597.00	691.00
Minimum	287.00	316.00
Range	310.00	375.00

Membership in Grades 9-12

attendance) on the prior school year. Even more important to this study is establishment of the "bedroom" communities with families contributing only the value of a home to the overall valuation of the district.

The erratic population growth patterns that are developing in the sample schools near large cities seemed to contribute to the low correlation between building facilities and memberships.

Results of Testing Null Hypothesis Number Three (Ho_3)

The hypothesis was that there is no statistically significant difference in the quality of the high school building facilities in a district and the number of kinds of extra-curricular activities available to students.

The Pearson product-moment correlation coefficient for the high school building facilities scores and the number of kinds of extra-curricular activities is 0.3024. This value was not significant at the .05 level.

Special Notes: It was observed that the maximum number of kinds of extra-curricular activities documented in any of the sample schools was 30, and the minimum number of activities was 20. This range of only 10 kinds of activities between schools with memberships ranging from 300 to 800 does not show any degree of diversity in opportunity between small and larger schools. This observation showed that the usual kinds of athletics, music groups, cheerleader groups, and special interest academic clubs exist in most schools in the study without

FIGURE III

TOTAL BUILDING SCORE V. EXTRA-CURRICULAR ACTIVITIES

```
                                                        *
30.0 +            *
     .
     .
     .
     .
     .
29.3 +                                          **
     .
     .
     .                                   *
26.7 +
     .          *
     .                                                      *
     .
     .                         **                  *
25.0 + *
     .
     .
     .           *
23.3 +      *              *              *
     .
     .
     .        *           *
     .
21.7 +                  *
     .
     .
     .
     .        *  *           *     *              *
     + . . . . . + . . . . . + . . . . . + . . . . . + . . . . . +
     287       349         411         473         535         597
                       Total Building Scores
```
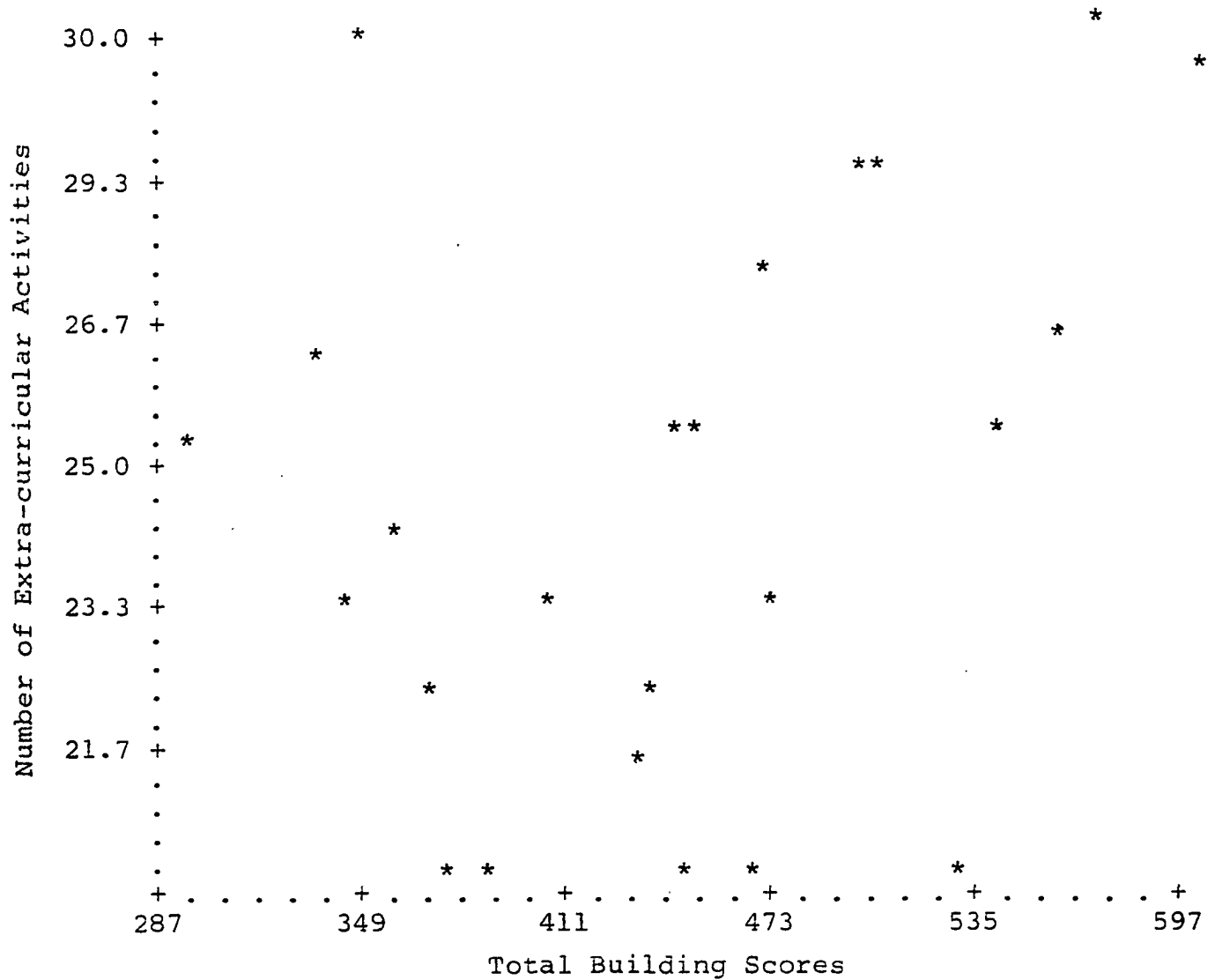
Descriptive Statistics

	Total Building Scores	Extra-Curricular Activities
Mean	441.96	24.25
Standard Deviation	82.26	3.29
Maximum	597.00	30.00
Minimum	287.00	20.00
Range	310.00	10.00

Number of Extra-curricular Activities

regard to size of the school or the quality of its building facilities.

One important program observed in the research was one school with a federal grant to offer over 20 extra-curricular activities not normally offered and designed to involve every student in the school. This increased number of activities was not considered in the study because of the special funding, but observing the effort being put forth to develop each student's interest to the fullest was challenging and rewarding.

Results of Testing Null Hypothesis Number Four (Ho₄)

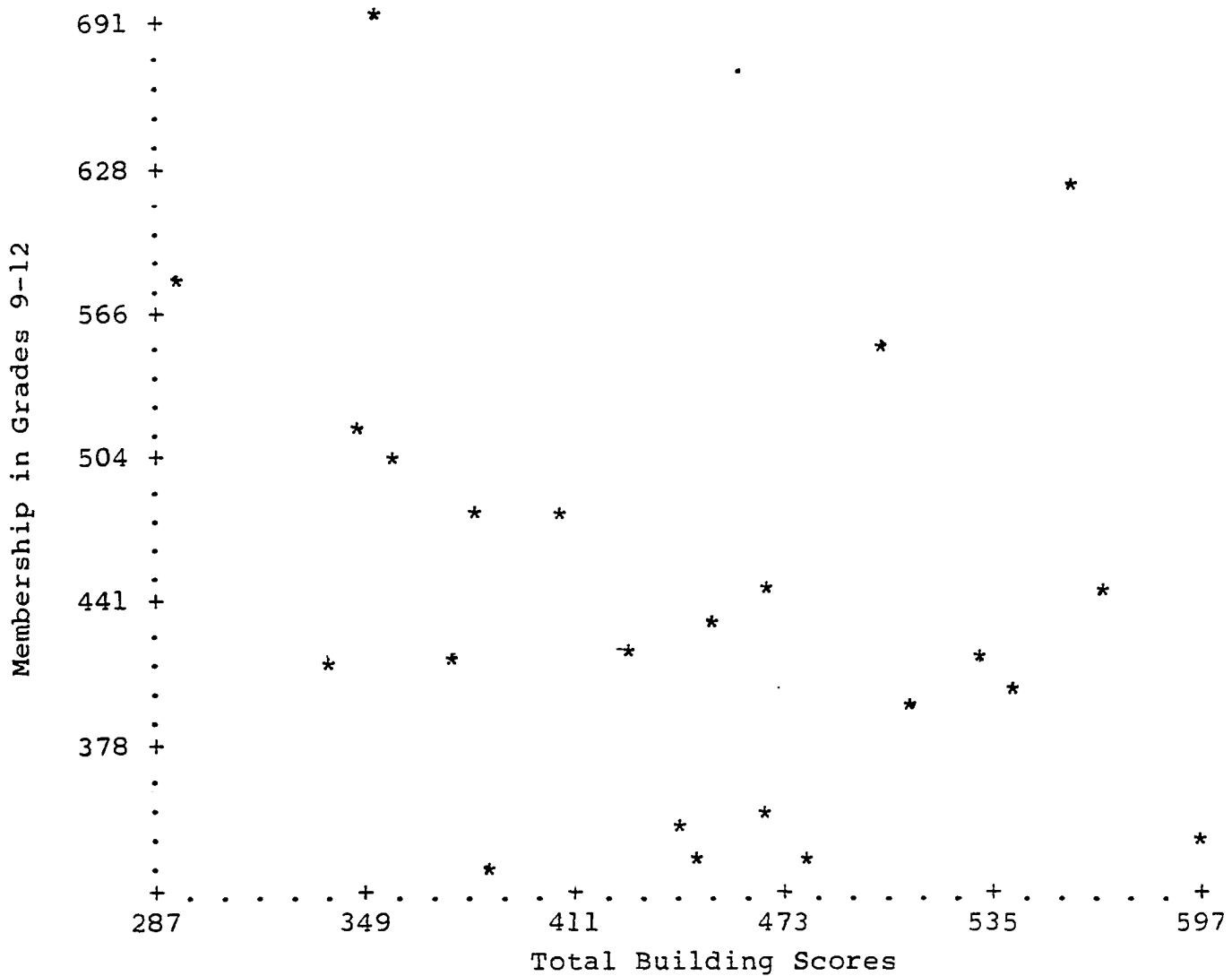The hypothesis was that there is no statistically significant difference in the quality of the high school building facilities in a district and the assessed value of the public service property in the district.

The Pearson product-moment correlation coefficient for the high school building facilities scores and the assessed value of the public service property in the district is 0.4449. This correlation coefficient was significant at the .05 level.

The null hypothesis was rejected and the statement that there is a statistically significant relationship between the high school building facilities in a district and the assessed value of the public service property in the district was supported.

Special Notes: The correlation between membership and assessed public service valuation (Table V) was -0.0666.

This low correlation demonstrates the inequity that existed between distribution of public service monies and the distribution of memberships in schools. This correlation was not significant, and a complete randomness can be assumed between these two variables.

An examination of Table III shows that six out of the 24-school sample have public service valuations of 40 percent or more of the total net assessed valuation. It was observed that one school district had 64 percent of its net assessed valuation as public service property, and two schools had 85 percent of the net assessed district valuation made up of public service property.

It should be noted that a high percentage of public service valuation in relation to the net assessed valuation of the district does not always assure adequate funds for building purposes. Some poor, small districts still do not have an adequate tax base to raise the necessary funds for needed buildings. One example is District E with 48 percent of the net assessed valuation accounted for by public service property being ranked fourteenth among the 24-school sample on the total building score shown in Table I. It will be noted that this school ranked very high on the deparmental evaluation which resulted in a total facility score that appeared to be large. Observations made at the site showed that the school district could not afford to build new buildings, so the board of education had elected to remodel several

FIGURE IV

TOTAL BUILDING SCORE V. ASSESSED VALUE OF
PUBLIC SERVICE PROPERTY
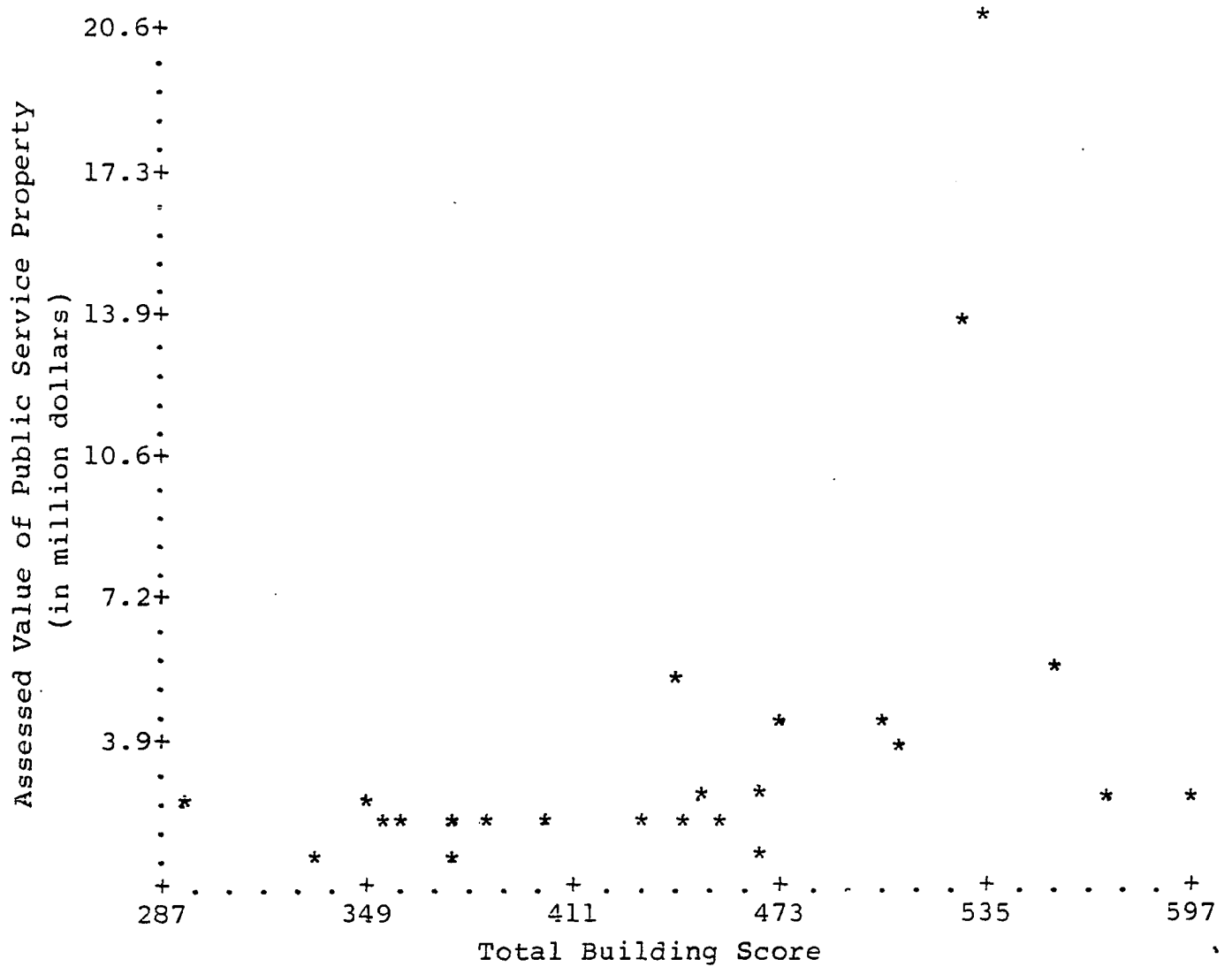
Descriptive Statistics

	Total Building Scores	Public Service Value (in million dollars)
Mean	441.96	$ 3.45
Standard Deviation	82.26	4.40
Maximum	597.00	20.60
Minimum	287.00	0.55
Range	310.00	20.05

of the existing buildings. This resulted in high departmental

scores, and yet the overall plant was very old and the district

was in need of a long-range building plan if the district is to

continue to operate.

Such a long-range building plan is not feasible with

the tax base remaining fairly stable and the cost of materials

and labor on the increase.

Results of Testing Null Hypothesis Number Five ($\overline{Ho}_5$)

The hypothesis was that there is no statistically

significant difference in the quality of the high school

building facilities in a district and the net assessed valua-

tion of the district.

The Pearson product-moment correlation coefficient

for the high school building facilities scores and the net

assessed valuation of the district is 0.6199. This correlation

coefficient was significant at the .01 level.

The null hypothesis was rejected, and the statement

that there is a statistically significant relationship between

the high school building facilities in a district and the net

assessed valuation of the district was supported.

Special Notes: Buildings in Oklahoma are built with

local resources, primarily through the sale of bonds on dis-

trict valuation. The concept of equalization leads to the

conclusion that all children should attend school in adequate

facilities of equal quality. Data in Table V indicates a

0.0874 correlation coefficient between membership and net

assessed valuation in the district. This correlation is so low that it should be considered random. This small value indicates that there was no relationship between the district valuation and the number of students in high school. The conclusion that can be drawn is that fiscal neutrality in funding school buildings in Oklahoma does not exist.

Operational inequities are partially treated through the foundation programs for distribution of State aid. However, there is no stipulation in the State program for equalization for construction. The result is that small districts, poor districts, and especially small and poor districts cannot vote enough bonds to build adequate buildings. One obvious solution to this problem would be to consolidate districts. This would be only a partial solution because the consolidation of two or more poor districts may only compound the problem and increase transportation problems.

One area of the State that demonstrates this problem is southeastern Oklahoma. Because of the terrain, lack of industry, and generally poor economic conditions, many small schools cannot construct buildings. Also, larger districts cannot finance an adequate school building program with its available bonding capacity.

Such districts can be recognized by two characteristics. The first is a crowded school site near the center of town. The first school was probably built on this site during the early 1940's or earlier. As school needs grew, other

FIGURE V

TOTAL BUILDING SCORE V. NET ASSESSED VALUATION OF THE DISTRICT


```
                                                                *
   24.3+                                                      
        .
        .
        .
        .
   20.7+
        .
        .
        .
        .
                                                    *
   17.1+                                       
        .                            *              *
        .
   13.6+                                                     *
        .
        .
        .                                        *
   10.0+              *                                              *
        .                        *     *
        .                        *
   6.4+*         *                *
        .                  *               *
        .            *     *         *
        .                          *
        +  . . . . . +  . . . . . +  . . . . . +  . . . . . +  . . . . . +
       287        349        411        473        535        597
                        Total Building Score
```

Net Assessed Valuation of the District (in million dollars)
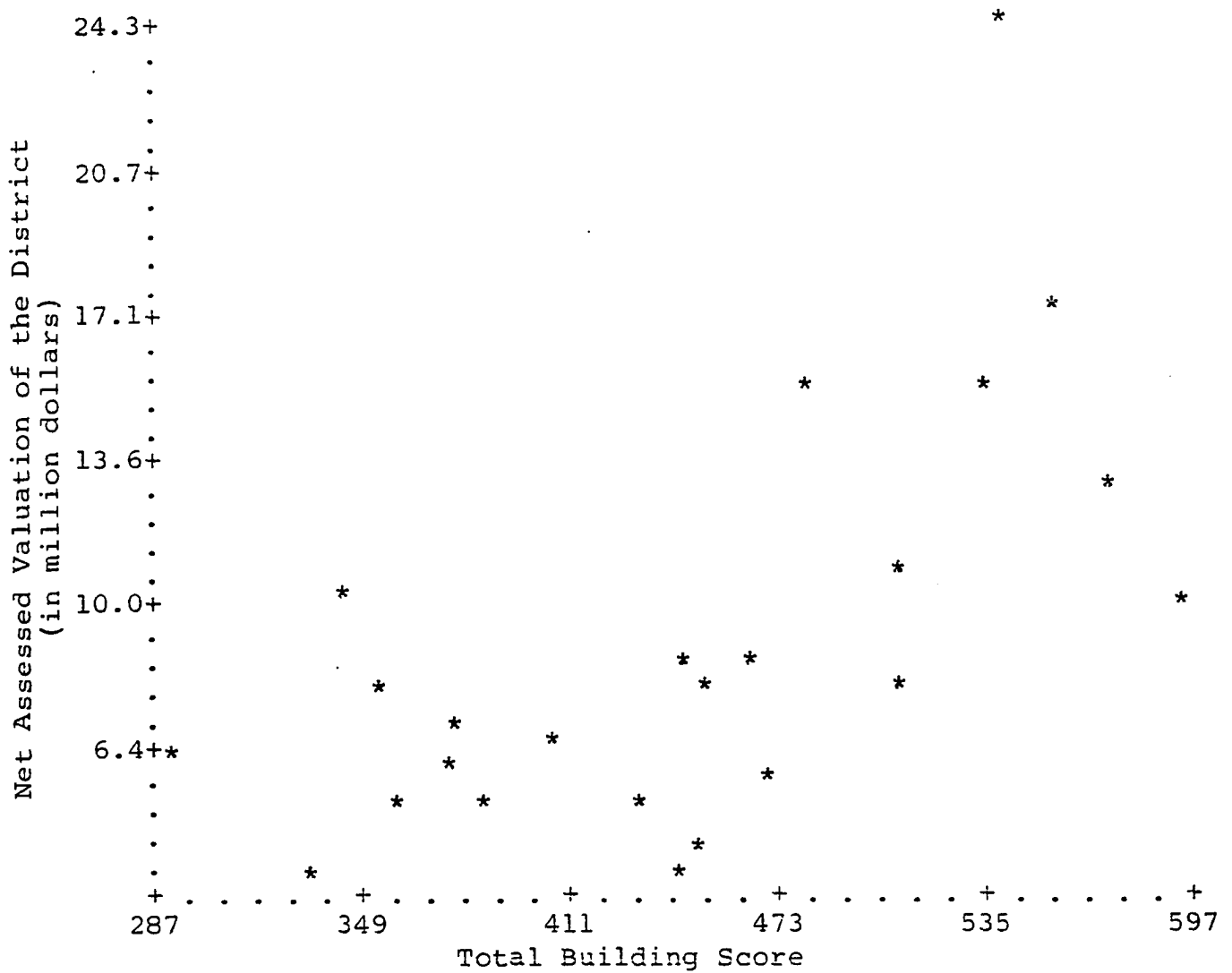
Descriptive Statistics

	Total Building Scores	District Valuation (in million dollars)
Mean	441.96	$ 8.54
Standard Deviation	82.26	5.04
Maximum	597.00	24.28
Minimum	287.00	2.85
Range	310.00	21.43

buildings were added when it was possible. The result was that there is not room to expand, to build parking lots, or to carry on other progressive educational programs. The second characteristic of districts with problems providing adequate facilities was buildings that have been constructed in stages. Some of the high schools visited in this study had three or more additions varying in age from forty years old to recent construction dates. One chief school adminis- trator with over thirty years experience in the schools of southeastern Oklahoma stated that he had never been able to build a new building at a completely new site. He said it was common practice to construct buildings, a few classrooms at a time, over a period of several years. Large structures such as auditoriums, gymnasiums and other expensive structures could not be considered using this plan.

Observations on District Valuation and Equality of Educational Opportunity

It should be noted that there was a very high correla- tion between public service valuation and the net assessed valuation of the district. According to data contained in Table V, the correlation coefficient between these variables is 0.8300. This was significant at the .01 level.

Five of nine correlation coefficients listed in the correlation matrix in Table V under public service property were significant. The correlation between public service

property valuation and the variables; high school facility

only, departmental evaluation, and net assessed valuation of

the district were significant at the .01 level. The correla-

tion between public service property valuation and the two

variables; non-academic facilities and total facilities

scores were significant at the .01 level.

The correlations associated with the total net assessed

valuation of the district were even higher than those with the

public service property value. (See Table V.)

These important relationships demonstrated the ineq-

uities that existed among school districts in constructing

buildings. If the district had a high relative public service

property valuation, then it was more likely to be able to

construct needed school facilities. In addition, schools

with very high public service valuations were able to build

buildings with most of the cost supported by taxes on this

property rather than local tax payer's property.

To further stress the point of inequity among school

district building facilities and equal educational opportunity,

attention is again directed to Table V. Note that the correla-

tion coefficient between non-academic facilities and public

service property valuation was 0.5087. This was significant

at the .05 level and very near the value, 0.515, that is

required for a significance level of .01. Note also the corre-

lation coefficient between non-academic facilities and net

assessed valuation was 0.6679. This was significant at the

.01 level.

The data in the prior paragraph was presented to show that districts with high relative public service property valuations and with high relative net assessed valuations were able to provide high quality non-academic facilities. Non-academic facilities are structures such as gymnasiums, auditoriums, student and teacher lounges, cafeterias, physical education facilities, administrative and faculty offices, and counseling centers.

Districts with low relative public service property valuations and with low relative net assessed valuations were not able to provide non-academic facilities or at best to provide a minimum of such structures and then of a minimal quality.

At one time in the history of public education such facilities were considered frills, but most educators agree on the importance of facilities being termed non-academic structures. If such structures are important to an educational program, and if what happens in these facilities is important to a child's education, it would appear that equality of educational opportunity does not exist in the State of Oklahoma under the present system of funding school facility construction.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Oklahoma and fourteen other states provide no State resources for construction of school buildings. Statistics available through the State Department of Education point toward the inequities that exist because all buildings are financed at the local level.

The purpose of this study was to determine the relationship between the buildings that now exist in selected schools in Oklahoma and the valuation of the district. Other relationships of equality of educational opportunity to building facilities were also considered.

Five sub-problems of this study that were investigated were:

1. The relationship between the quality of school building facilities and the quality of education provided, based on the units of approved high school work offered.

2. The relationship between the quality of school building facilities and the membership in the schools.

3. The relationship between the quality of school building facilities and the extra-curricular activities provided for students

4. The relationship between the quality of school building facilities and the public service property in the district.

5. The relationship between the quality of school building facilities and the total net assessed valuation of the property in the district.

Twenty-four high schools with memberships between 300 and 800 students were selected as the population for this study. Superintendents in each of the sample schools were contacted, and permission to conduct a building survey was received. The survey in each school was conducted by the same person, using an instrument that had been designed for this purpose. Data from the survey forms were analyzed at the University of Oklahoma computer center. A Pearson product-moment correlation matrix, scatter plots, and descriptive statistics were generated at the computer center. The correlation matrix was studied for significance of the various correlation coefficients using data from a table of critical values.

Findings

The following hypotheses were tested with the results indicated:

Ho_1 There is no statistically significant difference in the quality of the high school building facilities in a district and the units of approved high school work.

The Pearson product-moment correlation coefficient for the high school building facilities' scores and the number of units of approved high school work was -0.1658. This was

not significant at the .05 level. Therefore, the null hypothesis was not rejected.

Ho$_2$ There is no statistically significant difference in the quality of the high school building facilities in a district and the membership in grades nine through twelve.

The Pearson product-moment correlation coefficient for the high school building facilities' scores and the membership in grades nine through twelve was -0.2754. This was not significant at the .05 level. Therefore, the null hypothesis was not rejected.

Ho$_3$ There is no statistically significant difference in the quality of the high school building facilities in a district and the number of kinds of extra-curricular activities available to students.

The Pearson product-moment correlation coefficient for the high school building facilities' scores and the number of kinds of extra-curricular activities was 0.3024. This value was not significant at the .05 level. Therefore, the null hypothesis was not rejected.

Ho$_4$ There is no statistically significant difference in the quality of the high school building facilities in a district and the assessed value of the public service property in the district.

The Pearson product-moment correlation coefficient for the high school building facilities' scores and the assessed public service property was 0.4449. This was significant at

the .05 level. Therefore, the null hypothesis was rejected.

Ho$_5$ There is no statistically significant difference in the quality of the high school building facilities in a district and the total net assessed valuation in the district.

The Pearson product-moment correlation coefficient for the high school building facilities' scores and the net assessed valuation of the district was 0.6199. This was significant at the .01 level. Therefore, the null hypothesis was rejected.

Conclusions

1. The wealth of a district was an important determining factor in the quality of facilities a school district could provide for its students.

2. School districts with concentrations of public service property were able to provide more adequate building facilities.

3. Inequality of building facilities resulting from unequal district wealth was most evident in the category termed non-academic in this paper. This category included facilities such as: cafeterias, auditoriums, art rooms, music facilities, physical education facilities, conference rooms, student and teacher lounges, administrative offices, teacher workrooms, and counseling centers.

4. Evidence in this study indicated that building facilities cannot be adequately financed at the local level in most school districts.

5. The educational philosophy of the administrative staff was an important factor in providing equal educational opportunity for students.

6. In the sample schools, the number of kinds of extra-curricular activities were equally available to students in low-wealth districts as in high-wealth districts. There was a difference in the quality of equipment, facilities, and individual student expenditures between high-wealth and low-wealth districts.

Recommendations

1. This study provided support for the concept that the property wealth of school districts determine the quality of school facilities that can be provided. The quality of facilities is clearly related to the quality of education that can be provided. Therefore, additional research focused on other samples including elementary as well as high school facilities should be undertaken.

2. The need for equalization of building facilities across the State was noted in this study. It was found that districts having high-wealth (usually from heavy industry or high public service valuation) were more likely to have adequate facilities for science laboratories, libraries, projection facilities, cafeterias, art rooms, auditoriums, music facilities, physical education facilities, student and teacher lounges, counseling centers, etc.

Even though the study was not able to make a direct connection between building facilities and equal educational opportunity, the presence of these important facilities seemed significant. The fact that a poor district cannot provide the same kind of facilities as a wealthy district points toward the unequal educational opportunities in the State.

It is recommended that consideration be given to State supported finance plans for construction of building facilities. Such plans should allow each viable district to provide equal facilities, based on need surveys.

3. School districts in Oklahoma need additional expertise in planning for long-range building needs and with planning individual buildings. There is evidence to indicate that poor planning leads to extravagance, wasted space, greater cost, excess energy consumption and expensive errors in construction. In some cases, buildings seemed to have been designed as monuments or whims of someone's imagination.

Consideration should be given to greater involvement of the Oklahoma State Department of Education in facility planning. A study to consider this recommendation should include a survey of the kinds of services in facility planning provided through other State departments of education across the nation. Special consideration should

be directed to the effect these services have on local
control and decision making at the local level.

4. Observations in this study led to the idea that some
    building facility problems could be dealt with if
    adequate long-range planning is done. This was partic-
    ularly evident in eastern and southeastern Oklahoma
    where many of the chief administrators had tenure of
    fifteen or more years in a school.

    It was found that building facilities in specific
    districts were more adequate than would have been
    expected considering the net district valuation. It
    was assumed that chief administrators with greater
    tenure, school boards with well defined goals, and
    stable leadership over a period of years contributed
    to more adequate building facility conditions. Further
    research should explore the relationships between leader-
    ship and long-range goal setting to the improvement of
    building facilities in a district.

5. Population shifts were observed to be a factor in planning
    and financing building facilities. Special problems asso-
    ciated with population shifts around large cities result
    in "bedroom" communities. Such suburban communities
    rarely have adequate tax base to maintain building con-
    struction at the level necessary to meet the needs
    resulting from school growth.

Consideration should be given to a plan to alleviate problems associated with building facility shortages created by such population shifts.

6. The survey instrument used in the study collected information concerning both local and area vocational-technical offerings for students in a school district. It was found that:

a. Some districts do not have access to area vocational-technical schools and provide only a few vocational offerings.

b. Some districts do not have access to area vocational-technical schools, but provide a wide offering of vocational-technical programs at the local level.

c. Some districts provide very few vocational-technical programs and depend on the area vocational-technical school to provide this part of the educational program.

d. Some districts provide a wide array of vocational-technical programs, and also participate in the programs provided at the area vocational-technical school.

It is assumed that building facility programs at the local level could be improved if the most economical manner for providing vocational-technical education could be determined. This would also provide more quality of educational opportunity.

It is recommended that a study be conducted that would consider the cost factors involved with vocational-technical education and the various patterns of delivery that were outlined in this recommendation.

7. Non-academic facility scores based on the evaluation of cafeterias, auditoriums, physical education facilities, conference rooms, administrative offices, teacher work-rooms, student and teacher lounges, and counseling centers correlated highly with scores from the evaluation of: the high school building only, departments only, and total facilities. Evidence was found that indicated a reliable evaluation of school building facilities could be done by considering only the non-academic facilities described. Further study of this relationship could lead to a simplified technique for building facility evaluation.

8. The survey instrument developed for use in this study was a valuable tool. No effort was made to validate this instrument because it was used only for comparison of the twenty-four schools in the study.

In recommendation number seven, the idea of evaluating only specific parts of a school plant and arriving at a score that could be used in comparing building facilities was suggested.

Further work should be done on the instrument in order to determine its full potential and to increase its validity in comparing building facilities from district to district.

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APPENDIX A

HIGH SCHOOLS IN OKLAHOMA WITH MEMBERSHIPS BETWEEN 300-800

IN GRADES NINE THROUGH TWELVE ON OCTOBER 1, 1976

APPENDIX A

HIGH SCHOOLS IN OKLAHOMA WITH MEMBERSHIPS BETWEEN 300-800
IN GRADES NINE THROUGH TWELVE ON OCTOBER 1, 1976

No.	Name of School	Per Capita Valuation 1976-1977	Membership Grades 9-12 1976-1977	County
1	Roland	$ 1,273	311	Sequoyah
2	Muldrow	1,716	423	Sequoyah
3	Vian	2,162	317	Sequoyah
4	Stillwell	2,241	729	Adair
5	Locust Grove	2,501	404	Mayes
6	Sallisaw	2,537	698	Sequoyah
7	Broken Bow	2,645	775	McCurtain
8	McLoud	3,148	539	Pottawatomie
9	Dickson	3,274	404	Carter
10	Hugo	3,365	569	Choctaw
11	Newcastle	3,387	396	McClain
12	Idabel	3,494	691	McCurtain
13	Spiro	3,540	416	LeFlore
14	Hartshorne	3,579	338	Pittsburg
15	Heavener	3,603	398	LeFlore
16	Westville	3,678	317	Adair
17	Valliant	3,706	316	McCurtain
18	Coweta	3,725	478	Wagoner
19	Tecumseh	3,737	627	Pottawatomie
20	Bethel	3,969	379	Pottawatomie
21	Blanchard	4,162	329	McClain

Low Wealth (bracket spanning rows 7 through 10)

APPENDIX A (Contd.)

	No.	Name of School	Per Capita Valuation 1976-1977	Membership Grades 9-12 1976-1977	County
	22	Elgin	4,284	345	Comanche
	23	Antlers	4,367	389	Pushmataha
	24	Inola	4,412	334	Rogers
Low Wealth	25	Jay	4,457	492	Delaware
	26	Atoka	4,576	496	Atoka
	27	Marlow	4,727	445	Stephens
	28	Wagoner	4,757	575	Wagoner
	29	Tuttle	4,782	461	Grady
	30	Skiatook	4,790	460	Tulsa
	31	Wewoka	4,862	396	Seminole
	32	Chelsea	4,975	324	Rogers
	33	Collinsville	4,983	591	Tulsa
	34	Poteau	4,987	508	LeFlore
Average Wealth	35	Mannford	5,106	410	Creek
	36	Eufaula	5,213	434	McIntosh
	37	Sperry	5,255	324	Tulsa
	38	Noble	5,270	588	Cleveland
	39	Checotah	5,289	470	McIntosh
	40	Okemah	5,478	334	Okfuskee
	41	Henryetta	5,540	423	Okmulgee
	42	Pauls Valley	5,631	455	Garvin
	43	Stigler	5,681	364	Haskell

APPENDIX A (Contd.)

	No.	Name of School	Per Capita Valuation 1976-1977	Membership Grades 9-12 1976-1977	County
	44	Holdenville	5,904	388	Hughes
	45	Byng	5,913	454	Pontotoc
	46	Haskell	5,977	336	Muskogee
	47	Cleveland	6,190	494	Pawnee
	48	Prague	6,200	344	Lincoln
	49	Chandler	6,211	323	Lincoln
	50	Bristow	6,447	550	Creek
Average Wealth	51	Tishomingo	6,488	311	Johnston
	52	Durant	6,665	688	Bryan
	53	Millwood	6,756	465	Oklahoma
	54	Dewey	6,769	386	Washington
	55	Vinita	6,975	505	Craig
	56	Seminole	6,980	505	Seminole
	57	Purcell	7,072	373	McClain
	58	Frederick	7,206	417	Tillman
	59	Pawhuska	7,316	417	Osage
	60	Nowata	7,369	377	Nowata
	61	Elk City	7,376	516	Beckham
High Wealth	62	Wynnewood	7,466	310	Garvin
	63	Bixby	7,636	740	Tulsa
	64	Clinton	7,938	561	Custer
	65	Blackwell	8,062	630	Kay
	66	Madill	8,070	412	Marshall

APPENDIX A (Contd.)

No.	Name of School	Per Capita Valuation 1976-1977	Membership Grades 9-12 1976-1977	County
67	Sulphur	8,404	406	Murray
68	Catoosa	8,611	626	Rogers
69	Wilburton	8,627	317	Latimer
70	Hobart	8,855	305	Kiowa
71	Weatherford	9,281	424	Custer
72	Lindsay	9,397	467	Garvin
73	Crooked Oak	9,422	323	Oklahoma
74	Perry	9,438	419	Noble
75	Stroud	9,526	352	Lincoln
76	Comanche	9,688	349	Stephens
77	Watonga	10,080	341	Blaine
78	Grove	10,209	504	Delaware
79	Cushing	10,364	610	Payne
80	North Enid	11,022	373	Garfield
81	Kingfisher	11,426	438	Kingfisher
82	Guymon	11,777	740	Texas
83	Anadarko	12,001	695	Caddo
84	Fort Gibson	14,197	412	Muskogee
85	Mustang	15,154	783	Canadian
86	Hennessey	17,646	325	Kingfisher
87	Alva	19,256	432	Woods
88	Oologah-Talala	22,887	399	Rogers
89	Harrah	24,135	503	Oklahoma

(Left margin label, rows 75–78: High Wealth)

Sources: Oklahoma, Oklahoma State Department of Education, 1976-1977 Annual Report. (per capita)

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APPENDIX B

STRATIFIED RANDOM SAMPLE TO BE USED IN THE STUDY

APPENDIX B

STRATIFIED RANDOM SAMPLE TO BE USED IN THE STUDY

Low Group	Per Capita Valuation	
A	2,501	Mean of thirty schools in the
B	3,365	low-wealth group was $3,553
C	3,494	per capita valuation.
D	3,540	
E	3,579	Mean of this eight-school
F	3,706	sample was $3,561 per capita
G	3,725	valuation.
H	4,576	

Middle Group		
I	4,975	Mean of twenty-nine schools
J	5,106	in the average-wealth group
K	5,213	was $5,977 per capita valuation.
L	5,289	
M	5,540	Mean for this eight-school
N	5,904	sample was $5,682 per capita
O	6,447	valuation.
P	6,980	

High Group		
Q	8,627	Mean of thirty schools in the
R	9,688	high-wealth group was $11,177
S	10,080	per capita valuation.
T	10,364	
U	11,426	
V	14,197	Mean for this eight-school
W	17,646	sample was $13,114 per capita
X	22,887	valuation.

APPENDIX C

CORRESPONDENCE RELATED TO THIS STUDY

APPENDIX C

March 10, 1978

I am conducting research on a problem for a doctoral dissertation that relates school building facilities to district wealth. My study includes secondary school districts in Oklahoma whose memberships ranged from 300 to 800 students on October 1, 1976. The State Department of Education provided data that identified your school as one of the 89 districts meeting these restrictions. A stratified random sample of these 89 school districts was taken to select 24 schools as the sample for my study. Your school district was one of the 24 schools in the State selected for study.

I am requesting permission to come to your school during the months of March or April and conduct a survey of your secondary school facilities. Information collected in this survey will be kept confidential and the only reference to any school in the dissertation will be made on the basis of a code letter.

I would need to spend two hours in your school completing the instrument that has been developed. During this time, I would need to tour your facilities and would appreciate the assistance of a custodian, a student or some other person familiar with your school. I would need a fifteen minute exit interview with your building principal or someone else on your staff in order to complete my survey.

I am enclosing a form for your convenience in responding to my request as well as a form that you may wish to transmit to your building principal or some other person that you may designate to assist me. Also enclosed is a stamped addressed envelope. Would you please check the "yes" circle granting me permission to make an appointment at your school and designate a contact person that you have empowered to assist me.

APPENDIX C--Continued

Page 2
March 10, 1978

   If you feel you need additional information concerning
my study, mark the appropriate circle on the form and return
it to me. I will then call you to discuss this further. I
know that you have been in graduate classes and are aware
of the importance of 100 percent participation of all sub-
jects in such a small sample as the 24 schools that I have
selected. Because of your awareness of this need, I trust
that you will respond in a positive manner to my request.

                              Sincerely,

                              Larry A. Darbison
                              516 Price Avenue
                              Ada, OK 74820

                              (405) 332-2666

APPENDIX C--Continued

March 16, 1978

Code Letter for Your School: _____

Dear Mr. Darbison:

We would be pleased to have you be our guest and to conduct
the proposed survey of our school.

$\bigcirc$ $\bigcirc$

Yes   Please call me to
                             discuss this further

Contact the following person to work out the details of your
visit.

_____	_____
Name	Title
_____	A.C. _____ # _____
Address	Telephone
_____	

We will be happy to provide someone to guide you through our
building facilities and to provide the exit interview that you
need to complete your survey.

                              Sincerely,

                    _____
                              Superintendent

                    A.C. _____ # _____
                              Telephone

APPENDIX C--Continued

March 16, 1978

Name of Contact Person

I have given Larry Darbison of East Central University per-
mission to survey the buildings of your school on a day that
the two of you will arrange. He will be contacting you to
work out the details.

Mr. Darbison's survey is connected with a doctoral study that
he is completing at the University of Oklahoma. He indicated
that he would need to spend approximately two hours at the
school site and would need an exit interview of approximately
fifteen minutes with you.

I hope that you will have time to arrange a custodian, teacher's
aide or a student to show Mr. Darbison around the school and
then answer the questions that he may have after that tour.

Thanks

APPENDIX D

COPY OF SURVEY INSTRUMENT USED IN THIS STUDY

APPENDIX D

SECONDARY SCHOOL FACILITY EVALUATION

Name of School_____

Address_____

Superintendent or Principal_____
                                Contact Person

Telephone _Area Code_____Number_____

Code Number To Be Used In This Study_____

Name of Evaluator_____

Date of Evaluation_____

Larry Darbison

516 Price Avenue

Ada, OK 74820

405   332-2666

Name of School_____

			*MS	**ES
I Adequacy of: Facility Structure Educational Capability 40 points	A	Durability of Materials (Ext)	6	
	B	Size of Halls	3	
	C	Age of Building	5	
	D	Inner Walls (non load bearing)	3	
	E	Electrical Outlets	2	
	F	Windows and Doors	3	
	G	Foundation (apparent cracks)	5	
	H	Ramps and/or Elevators	2	
	I	Restrooms for Handicapped	2	
	J	Aesthetic Quality	4	
	K	Safety of Building	5	
II Lighting 10 points	L	Artificial and Natural	7	
	M	Control for Audio-Visual	3	
III Heating-Cooling Ventilation 10 points	N	Heating and Air Conditioning	6	
	O	Planned Energy Program	2	
	P	Zoning of Heating and Cooling	2	
IV Sound Level 10 points	Q	High Low 0_____10	10	
V Efficiency of Maintenance 10 points	R	Floors	5	
	S	Walls	3	
	T	Ceilings	2	
VI Sharing of Bldg or Facility with Another School (*Select one)	U	*Can use 100% of the Time 5 *Can Use 50% of the Time 2 *Can Use Less Then 50% 1	5	
VII Outside Safety and Security 15 points	V	Outside Well Lighted	3	
	W	Building Entrance Adequate	2	
	X	Sidewalks, Steps and Ramps	2	
	Y	Bus Loading Area	2	
	Z	Truck Delivery Area	2	
	AA	Building Wide Communications	2	
	BB	Parking Lot Safety	2	
Evaluators Score for This Facility			100	

High School Building Only: *MS-Maximum Score
                            **ES-Evaluator's Score for Facility

APPENDIX D--Continued

Facility For:	CC Size (5-0)	DD Atmosphere & Decor (5-0)	EE Specially Constructed (5-0)	FF Loc in Schl Plant (5-0)	GG Total Points	HH Units Offered Grades 9-12	II Enroll Grades 9-12
Lang Arts							
Math							
Soc Stud							
Science							
Bus Educ (non-voc)							
Fine Arts							
Health & Safety							
Foreign Language							
Pract Arts							
Voc Educ (Home H.S.)	(LIST NAME OF VOCATIONAL CLASS OR SPECIAL PROGRAM OFFERED AT REGULAR SITE)						
Other (List)							
TOTAL							

Area Vo-Tech School

APPENDIX D--Continued

EVALUATION OF NON-ACADEMIC FACILITIES

Name of School_____

Auxillary and Support Facilities	JJ Size (5-0)	KK Atmosphere and Decor (5-0)	LL Specially Constructed (5-0)	MM Loc in Schl Plant (5-0)	NN Total	OO Separate Building or Facility
Competitive Athletic Facilities						
Auditorium						
Library Media Center						
Counselor Suite	.					
Administrative Offices						
Cafeteria	.					
Student Lounge						
Teacher Lounge						
Teacher Offices and Preparation Rooms						
Maintenance Facility						
Conference Rooms						
Other--List by Name						
TOTAL						

APPENDIX D--Continued

SURVEY OF EXTRA-CURRICULAR ACTIVITIES

Athletics and Physical Education			Organizations		
Name of Activity	No. Boys	No. Girls	Name of Activity	No. Boys	No. Girls
Football			FFA		
Basketball			FHA		
Baseball			FBLA		
Track and Field			VICA		
Swimming			4-H Club		
Wrestling			Key Club		
Tennis			Student Council		
Softball			Office Assistants		
Gymnastics			Library Assistants		
Weight Lifting			Teacher Aides		
Exercise			Pep Club		
List any other clubs, activities, etc., that are available to students.			FCA		
			Photography		
			Audio-Visual Club		
			Nat'l Honor Society		
			State Honor Society		
			Music Club		
			Speech Club		
			Math Club		
			Science Club		
			Journalism Club		
			Yearbook Staff		
			Newspaper Staff		
			Drill Team		
			Band		
TOTAL			TOTAL		

APPENDIX D--Continued

School_____ Code_____

School Facility History

1. Does school have a written master plan for facility construction for the next ten years?

    YES   NO

2. Has a new building been approved for construction or is one under construction in your district at this time?

    YES   NO

    If yes: A. Grades to be housed_____
             B. Cost of new building _____
             C. Square footage_____
             D. Exterior material_____
             E. Interior wall material_____
             F. Roof construction_____
             G. Floor material_____
             H. Number of Rooms_____
             I. Special facilities_____
                 _____
             J. Other_____

3. Is school a member of the North Central Association?

    YES   NO

4. Changes in the district during the past five years in valuation:

    Substantially   Stayed the Same   Substantially
      Increased   Decreased

    Reason for change (if any) _____

    _____
    _____

    (a) Heavy industry (b) New Public Service property
    (c) Lake covering part of the district (d) Property in district taken off tax rolls because of new use (f) Trusting funding of new industry (g) Other, specify

5. Changes expected during the next five years in the valuation of the district:

    Substantial Increase   Stay the Same   Substantial Decrease

    Reason for expected change (if any)_____

    _____

APPENDIX D--Continued

School_____   Code_____

School History

6. District receives most of revenue from?_____

    _____

    Agricultural Property   Commercial Property   Heavy Industry
    Public Service   Property   Private Homes   Other-specify

7. District has had severe setbacks in the building program in
    the last ten years because of:

        A. Fire   D. Flood
        B. Tornado   E. Building Collapse
        C. Explosion   F. Other--list_____

8. If the district had outside help in reconstruction of the
    building loss list source of help and amount:

          Source   Amount

    A. Special Legislative appropriation_____
    B. Emergency funds from State Department_____
    C. Federal Funds_____
    D. Other_____

9. Number of bond elections in the last ten years for building
    facilities:

    Election for what buildings   Outcome   Year

    A. _____   _____   _____

    B. _____   _____   _____

    C. _____   _____   _____

    D. _____   _____   _____

    E. _____   _____   _____

    F. _____   _____   _____

    G. _____   _____   _____

10. Does district have the bonding capacity to construct the next
    faility planned?

                YES   NO

11. If yes, are there plans for calling a bond election this year?

     YES   NO

12. If no, why not?

  A. Not needed B. Cannot Pass C. Other_____

13. Has the district received federal grants for facility construction (other than emergency)

            YES   NO

 If yes, please specify:

  The building/s Approximate Amount Kind of Grant

  _____   _____ _____

14. Number of years the present superintendent has been the chief school administrator in this school. _____years.

KEY FOR SECONDARY SCHOOL FACILITY EVALUATION

A. Durability of Materials
   (exterior)

 a. Brick or other masonry. . . 6
 b. Metal 4
 c. Wood 2

B. Size of Halls (main)

 a. Wide (15 ft or more). . . . 3
 b. Medium (12 to 15 ft). . . . 2
 c. Narrow (less than 12 ft . . 1

C. Age of Building

 a. 0-5 years 5
 b. 6-15 years 3
 c. 16-20 years 2
 d. 21 and over 0

D. Inner Walls

 a. All inner walls non-load
  bearing 3
 b. Classroom partitions non-
  load bearing 2
 c. All walls fixed and load
  bearing 0

E. Electrical Outlets

 a. Six or more per classroom . 3
 b. Four or more per classroom. 2
 c. Two (one--front and one
  back) 1
 d. One or none 0

APPENDIX D--Continued

Key for Secondary School Facility Evaluation

F. Windows and Doors
    a. Metal with safety glass or plastic. 3
    b. Wood with safety glass or plastic 2
    c. Wood without safety glass . 1

G. Foundation
    a. Solid 5
    b. Visible cracks in foundation or walls 3
    c. Cracks 1/4" or more in foundation or walls 0

H. Ramps and Elevators
    a. Architectural barriers not included in original construction 2
    b. Modification to remove architectural barriers. . . 1
    c. Not accessible to handicapped 0

I. Restrooms for Handicapped
    a. Doors wheel chair-wide with support bars inside of room. 2
    b. Doors not wheel chair accessible or without support bars 1
    c. Not accessible to handicapped 0

J. Aesthetic Quality
    a. Light--Bright colors. . . . 4
    b. Conservative--well maintained 2
    c. Dark--Needs work 0

K. Safety of Building
    a. Adequate escape routes
       No bottle necks in halls
       No narrow stairs
       No asbestos ceilings
       Boiler in isolated part of building 5
    b. Two of items above a problem 3
    c. More than two items a problem 1

APPENDIX D--Continued

Key for Secondary School Facility Evaluation

L. Artificial and Natural
Lighting

    a. Both available and ade-
quate 7
    b. Adequate artificial only. . 4
    c. Inadequate artificial . . . 1

M. Control of Lighting for
Audio-Visual Programs

    a. All rooms can be darkened . 3
    b. Specific rooms can be
darkened 2
    c. Minimal control (less than
50%). 1

N. Heating and Air Conditioning

    a. Both heating and air
conditioning. 6
    b. Heating (central or over-
head) 3
    c. Heating (open stoves) . . . 1

O. Planned Energy Program

    a. Yes (light switches--teacher
directives--Custodial
directives. 2
    b. No. 0

P. Zoning of Heating and
Cooling

    a. Rooms individually con-
trolled 2
    b. Zones individually con-
trolled 1
    c. Other 0

Q. Sound Level

    a. Carpeting accoustical ceiling
throughout--walls conductive
to sound control. 10
    b. Ceilings and walls (no
carpeting). 5
    c. High noise level. 0

R. Maintenance of Floors

    a. Carpet, Terrazzo, ceramic
tile. 5
    b. Asphalt or vinyl tile . . . 3
    c. Wood or concrete 0

S. Efficiency of Maintenance
of Walls

    a. Washable tile, epoxy, plastic
wallboard. 3
    b. Textured. 2
    c. Sheetrock or paneling with
no backing. 1

T. Ceiling

    a. Accoustical tile (drop in). 2
    b. Fixed ceiling 1
    c. Blown ceiling with loose
fiber 0

APPENDIX D--Continued

Key for Secondary School Facility Evaluation

U. Sharing of Building
    a. Available 100% of the
       time 5
    b. Available 50% of the
       time 2
    c. Available less than 50%
       of the time 1

V. Outside safety
    a. Well lighted--lights on all
       sides of building and in
       parking lots. 3
    b. Lighting on all sides of
       building. 2
    c. Minimal outside lighting. . 1

W. Building Entrance
    a. Large enough for enrollment
       Double doors
         No center posts. 2
    b. Less than above 1
    c. None of the above 0

X. Sidewalks--Steps--Ramps
    a. Not too steep (not more than
       1' rise per 10' run)
       Good repair
       Handrails 2
    b. Less than above 1
    c. None of the above 0

Y. Bus Loading Area
    a. Off street
       Students do not cross the
        street
       No student or staff autos
        in area
       Covered walk and waiting
        area 2
    b. Less than above 1
    c. None of the above 0

AA. Building Wide Communication
    a. Intercoms in all rooms, offices
       and shops 2
    b. Telephones in offices . . . 1
    c. None. 0

APPENDIX D--Continued

Key for Secondary School Facility Evaluation

BB. Parking Lot Safety

a. Access roads
   Lot lighted and
     fenced
   Market spaces 2
b. Less than above 1
c. None of the above 0