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UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

AN EXAMINATION OF THE FISCAL ADEQUACY AND EQUITY EFFECTS OF CLASS SIZE MANDATES EMBEDDED IN EXTENSIVE STATEWIDE EDUCATION REFORM

A Dissertation

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

Doctor of Philosophy

By

PAMELA DALE DEERING
Norman, Oklahoma
1997

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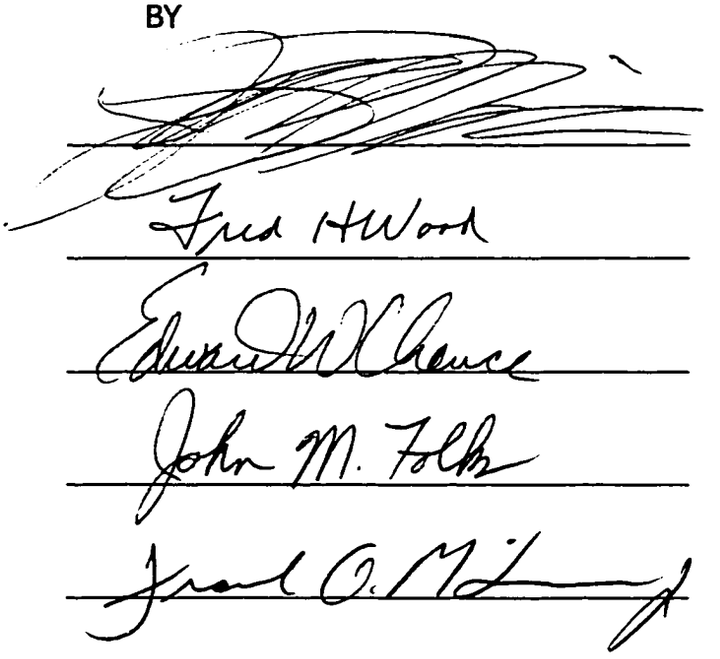
A Dissertation APPROVED FOR THE
DEPARTMENT OF EDUCATIONAL LEADERSHIP
AND POLICY STUDIES

BY



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Abstract

Oklahoma's 1990 educational reform legislation, House Bill 1017, provided the context for the study. Specifically, the elementary class size requirements were the focus. Data from Oklahoma school districts during the years of implementation, FY 91-95, were used to determine the fiscal adequacy and equity of funding this specific reform requirement.

As a part of this study, school finance reform, school finance litigation, education reform, and Oklahoma's education reform legislation in 1990 were discussed. A detailed description of the Oklahoma school finance formula was provided.

Statistical procedures were utilized to describe the results of the study. Specifically, the study explored the inadequacy of state general aid funding as elementary class sizes became more restrictive and to determine if equity decreased in the distribution of state aid based on local district wealth during the years of implementation.

The simple regression analysis did not show evidence of inadequacy in state general aid funding over the years of implementation. In the multiple regression statistical procedure, the district valuation variable was introduced for this same period of time. The analysis of this data indicated that equity was not decreased in the distribution of state aid based on local district wealth. In fact, equity was enhanced for the less wealthy districts during the years of implementation.

CHAPTER I

Introduction

Background

This study explored the fiscal adequacy and equity of funding educational reform in Oklahoma's House Bill 1017. Oklahoma is not the only state to be affected by educational and school finance reforms. State after state, particularly since the 1980's, had legislated sweeping education initiatives accompanied by significant revenue packages to support the implementation of the initiatives (Firestone, Rosenblum, Bader and Massell, 1991).

To some, the reform movement was a manufactured crisis or a campaign of criticism directed at the public schools (Berliner and Biddle, 1995). To others, schools became the scapegoat for the increasing failure of the American economy to compete in the world market. The notion of schooling as a pathway to social justice and public responsibility was replaced by the dictates of the marketplace and the logic of the test score (Giroux, 1989). Education reforms, however, were not new to public education in the United States. As early as the 1890s and through the most recent reform efforts, conservative as well as liberal trends forced changes in education. Academics, socialization, math and science curriculum, and school restructuring were among the many targets for the reform efforts (Chance, 1992).

Oklahoma, too, faced the call for education reform. House Bill 1017 was the result of the legislature identifying the educational needs through massive reforms, many which had been introduced and implemented by other states. Accompanying the reform in Oklahoma came state funding to support the various mandates. Earlier, in 1980, Oklahoma's finance formula was challenged on the basis that the state was unable to provide as much money per pupil to the poorer school districts as it did to the wealthier ones, or, in other words, the state monies were not equitably distributed. With the passage of the revised state aid formula in 1981 accompanied with increased state appropriations, the equity argument was quelled until 1990. The Oklahoma Education Reform Act of 1990 (Enrolled House Bill 1017, 1990) was passed and as a part of an educational reform effort, the state appropriated millions of dollars accompanied, again, by state aid formula changes. Chapter II provides a more complete description of the national reform movements and Oklahoma's reform effort, House Bill 1017. That discussion regarding the reforms provided the framework for the purpose of this study which was to explore the equity and adequacy issues related to educational reforms in Oklahoma.

There is a strong parallel between education reform and school finance reform. School finance issues, particularly equity and adequacy concerns, could have been the key reasons education reform progressed or failed. Since school finance is so important to understand the evolution of the growing theory of adequacy of funding education reform, the issue in this study, school finance

reform movements are briefly discussed in this chapter. This discussion will enable the reader to understand and/or to examine the specific context for this study of adequacy of funding the class size requirements of House Bill 1017.

School Finance Reform

During the past two decades, court decisions and various reform movements have evoked significant changes in the school finance systems of the 50 states (Burrup, Brimley Jr., and Garfield, 1988). Between 1971 and 1985, over 35 state legislatures enacted changes in school finance structures (Odden, 1991). School finance reforms are briefly discussed here and will be discussed in greater detail in Chapter II.

Odden (1991) categorized the reforms in school finance structures in five areas: (1) school finance formulas were changed sending more state dollars to property poor, lower spending districts; (2) the state's role in funding was increased; (3) state funding for special categories was increased; (4) aid to large urban districts for extraordinary needs was increased; and (5) education tax and spending limitations were imposed thus curbing annual increases in per pupil expenditures.

State courts in Arkansas, California, New Jersey, Kentucky, and Texas ruled that the funding systems were unconstitutional. The claims were that state aid was not distributed equitably and adequately and that states were too dependent on local property taxes for funding education. Courts in other states, such as Colorado, Michigan, North Dakota, New York, Pennsylvania, and

Oklahoma, upheld their funding systems as constitutional (Education Commission of the States, 1993).

Oklahoma's school finance system, which was a part of the focus for this study, was challenged in 1980 by the Fair School Finance Council of Oklahoma, Inc. Allegations were made that Oklahoma's school finance system denied children equal educational opportunities. In other words, the school finance system was unable to provide as much money per pupil for poorer districts as it did to the wealthier districts. The Constitution of Oklahoma has an education clause which requires that public schools are free and that all children of the state could be educated. Unlike the United States Constitution, which does not guarantee education as a fundamental right, Oklahoma relies on the Constitutional provision of a "guaranteed" education and requires the legislature to fund education.

During the time between 1980 and 1987, the legislature revised the finance system, adding $150 million to aid public schools (Education Commission of the States, 1993). The State Supreme Court ruled in 1987 that the state aid distribution formula did not violate the constitutional requirement that public schools were free and all children of the state could be educated. In 1990, the legislature "fine-tuned" the Oklahoma school finance system and appropriated millions of dollars to fund the requirements of what was known as House Bill 1017, Oklahoma's Education Reform Act.

Projections for the 1990s reflected a uniting of the fiscal concerns seen in the 1970s, as school revenues shifted from the local tax support to state support with the educational program concerns of the 1980s, thus providing a direction for future state policy (Odden and Picus, 1992). However, as states attempted to improve and fundamentally change education in the 1980s, a recession in the early 1990s intervened to stall reform efforts. The reform efforts for the 1990s were built on the momentum of the 1980s with the hope that the efforts would accelerate to reshape the schools (Southern Regional Education Board, 1991).

Despite a decline in state revenues, states continued to implement reforms. During this same time, while attention was still given to fiscal equity, a growing body of knowledge regarding the concept of adequacy of funding educational opportunities emerged from the literature (Wise, 1983; Carnoy, 1983; Ward, 1987; McCarthy, 1981; Thompson, Wood, and Honeyman, 1994).

Need for Study

Few, if any, documented studies have examined the relationship between educational reform and the adequacy of funding and fiscal equity of education funding structures. Other states, as in Oklahoma, had sought to increase standards through educational reforms and provide state revenues to support educational reforms. While a review of the literature showed that the results of educational reforms and state monies expended were available, the adequacy of the funding for the educational reforms, specifically class size requirements, had not been determined. However, school finance litigation has helped to define

the growing concept of adequacy in educational funding. These court cases are described in detail in Chapter II and include such litigation as Edgewood (1989); Rose (1989); McDuffy (1993); and Alabama Coalition (1993).

While education reform expectations were set by the legislature in the 1980s and 1990s, a review of the literature revealed only one reference to the financial effect or impact of Oklahoma's educational reform. This source consisted of a study published by Chance (1993), The Impact of Oklahoma House Bill 1017 on Rural Education: A Study of Selected Schools. Chance's study was limited in scope to selected rural school districts in Oklahoma and was conducted during the early part of the first years of implementation of House Bill 1017.

Class size requirements have been a major component of many educational reforms. The link to student achievement along with other characteristics of quality education was documented in a study of Texas school districts (Ferguson, 1991). Ferguson found that smaller class sizes and higher degreed and experienced teachers were found in school districts with better home environments. These same districts received higher levels of funding. Since class size and student achievement have been documented, the purpose of this study focused on the adequacy of funding this reform measure.

In Oklahoma, class size requirements were important as well. Class sizes were reduced dramatically and significant monies appropriated by the legislature

during the years of implementation of House Bill 1017 with the intent that this measure would improve student achievement.

Oklahoma school districts complied with these provisions by reducing class sizes, but at what cost to the districts? Information was available from the Office of Accountability, State Department of Education. In the document, Results 1994, Oklahoma Educational Indicators Program: State Report a report on the progress of the Education Reform Act of 1990 was provided. A similar progress report was available on each school district in Oklahoma. These reports revealed, to some extent, the successes and failures of Oklahoma's reform efforts through data compiled on a statewide basis. For example, from 1990 to 1994, the data reported by the Office of Accountability showed that dropout rates did not change; graduation rates declined by 9 percent; student achievement increased statewide; teacher salaries increased 19 percent; and state revenues to public schools increased 31 percent. The report did not, however, provide details regarding the adequacy of funding the class size requirements, only the implementation and penalty compliance by school districts.

Attention to other problems occurred when certain education-related areas were not addressed initially in House Bill 1017, while others were delayed and state revenue increases to support reforms ended after five years of implementation. Salaries of career teachers and Teachers' Retirement System contribution issues were not addressed. Early childhood programs, alternative

education programs, and technology funding were recognized, but were not included nor funded in the legislation. State funding had been and continued to be an issue in future reform efforts as a result of the passage of a constitutional provision, State Question 640, prohibiting the legislature's ability to raise taxes to fund state government without a vote of the people. In other words, the legislature was "tied" to funding from available revenues. As many agencies compete for state monies, the legislature's problem of funding education became more difficult.

House Bill 1017 was surrounded by controversy. A statewide vote to repeal the legislation failed. Since the completion of the funding for the reforms in 1994-95, research to determine the adequacy of the funding for the reforms has not been conducted.

Statement of the Problem

The primary purpose of this study was to examine the adequacy and equity of funding the elementary class size requirements of House Bill 1017. School finance litigation in other states had, in some ways, attempted to define adequacy of educational funding. Specifically, in McDuffy v. Sec'y of Exec. Off. of Educ. in Massachusetts (1993), the court held that the Commonwealth was in violation of its constitutional duty to provide all public school students with an "adequate" education. Evidence indicated that students in less affluent school districts were offered significantly fewer educational opportunities and lower education quality than students in schools in districts where per pupil spending

was among the highest of all Commonwealth districts. Less affluent districts in Massachusetts suffered from inadequate teaching of basic subjects, neglected libraries, inability to attract and retain high quality teachers, lack of teacher training, lack of curriculum development, lack of predictable funding, administrative reductions, and inadequate guidance counseling.

In Oklahoma, many of House Bill 1017 reform components addressed similar concerns for teaching, standards, funding, and curriculum, but the adequacy of funding has not been studied. This study focused on the adequacy of funding for elementary class size requirements beginning with the passage of House Bill 1017, the Oklahoma Education Reform Act. The following questions guided this study:

Question One: Is there evidence that inadequate state general aid funding was provided to assist local school districts in meeting an increasingly restrictive array of elementary class size requirements during the years of implementation of House Bill 1017 (FY 91-95)?

Question Two: Did the increasingly restrictive elementary class size requirements and concomitant state aid result in decreased equity of the distribution of state aid based on local district wealth, during the years of implementation of House Bill 1017 (FY 91-95)?

Methodology

To answer the research questions stated above, this study used data from the Oklahoma State Department of Education to simulate state aid dollars per

elementary class levels based on the class size reductions mandated during the years of implementation of House Bill 1017. The adequacy and equity of state funding of these class size requirements were determined through statistical procedures utilizing simple and multiple regression models which are described in detail in Chapter III. The level of significance at the $p>.05$ level and the direction of the level of significance determined the strength of the relationship, if any at all.

Definition of Terms

Adequacy – Adequacy in this study was defined as the state support to fulfill state mandates. In this study, the definition was based on the fact that the State Constitution requires the Legislature to provide a free education. Because adequacy was a new concept and more complex than equity, it was more difficult to define.

Equity – Equity meant compensating the differences to make equal or as a fair and just method to distribute resources to provide for children's needs (Verstegen, 1990; Thompson, Wood, & Honeyman, 1994).

Public Schools – Oklahoma Statute Title 70-1-106 defined the public schools of Oklahoma as all free schools, K-12, supported by public taxation and which included nurseries, kindergartens, elementary, kindergarten through twelfth grade. Also included are other public schools which were not a part of this study.

School district – Oklahoma Statutes Title 70-1-108 defined a school district as any area or territory comprising a legal entity, whose primary purpose was that of providing free school education for kindergarten through twelfth grade, whose boundary lines were a matter of public record, and the area of which constituted a complete tax unit.

Enrolled House Bill 1017 of the First Extraordinary Session of the 42nd Legislature – Oklahoma's Education Reform Act of 1990 within which the class size requirements and funding for House Bill 1017 were identified.

Years of implementation - House Bill 1017 was implemented during FY 91-95.

Limitations and Delimitations of the Study

The following were limitations and delimitations of this study:

1. The definition of adequacy in the literature was limited and not universally accepted.
2. The results of this study were limited to the provisions of Oklahoma's House Bill 1017, dealing specifically with elementary class sizes, kindergarten through sixth grades.
3. The class size data were simulated due to the lack of actual and consistent data from the State Department of Education during the years of implementation.
4. State general aid was used in the simulation. The simulations excluded state categorical dollars and federal dollars.

5. The years of implementation were limited to five fiscal years, FY 91-95, and did not include any changes in state aid or appropriations before or after the years of implementation.
6. The study was based on one state only and it may not be possible to generalize these findings.
7. School district averages were used rather than school site averages due to the volume of the data for simulation.

Assumptions

One underlying assumption in this study was that the membership and state aid data provided by the state were accurate for simulation purposes. Also, another assumption was that state aid was evenly distributed among grade levels at the district level. Additionally, district averages used represented individual school sites.

Summary

This chapter provided a brief overview of the concepts of adequacy and equity. Additionally, school finance reform and school finance issues nationwide and in Oklahoma were described. The need for the study focused on the lack of research available which examined the adequacy of funding educational reforms. The questions which guided this study encompassed the concepts of adequacy and equity of funding class size requirements during the years of implementation of House Bill 1017 (FY 91-95). The limitations and delimitations of the study were discussed as well as the assumptions for this study.

Chapter II presents a review of the literature related to school finance reform. An overview of Oklahoma's Education Reform Act and school finance issues will be discussed.

Chapter III will describe the research procedures used to answer the questions posed by this study. Next, Chapter IV will present findings and analyses of data. Finally, Chapter V will be a discussion of the findings, conclusions, implications, and recommendations as a result of the data analyses.

CHAPTER II

Review of Related Literature

The current study provided an examination of the adequacy and equity of state funding in assisting local school districts in the state of Oklahoma to fulfill certain requirements encapsulated in statewide educational reform, House Bill 1017 passed in 1990. The previous chapter briefly described education reform and school finance reform as the context for this study on adequacy and equity of state funding certain educational reforms in House Bill 1017. The current chapter includes a review of the relevant literature in the areas of equity, school finance litigation, adequacy and education reforms.

Sources for this review included a comprehensive analysis of ERIC; major journals; books; articles; state statutes and session laws; reports; papers related to this issue; and case law relevant to the issue of adequacy of state funding for education from the 1970's, through the early 1990's. The process for the search of the literature included manual and electronic means to ensure that the topics related to this study were fully reviewed.

The first section of this review includes a brief discussion of the evolution of equity in school finance setting the stage for the development of the concept of adequacy which is the major focus of this study. The second section of this review briefly examines major school finance reform litigation starting in the 1970s and early 1980s which was based on equity issues, but opened the door

to increased school finance litigation in state courts for issues related to the adequacy of educational funding. The third section reviews the origin of the concept of adequacy as well as explores various definitions of adequacy reported by school finance scholars. The fourth section examines major court cases and identifies how these cases have clarified and defined adequacy in the various states thus contributing to the growing body of knowledge related to this concept. The fifth section deals with education reform in the United States, tracing the school reform efforts since the 1890s and then discusses reforms in more detail through the 1980s. The sixth and final section of this chapter discusses the educational reform movement and legislation related to the adequacy of funding the reform components in Oklahoma's House Bill 1017. A special section in Chapter III will be devoted to class size requirements since this study was designed to determine if funding was inadequate to support the class size requirements mandated by House Bill 1017 during the years of implementation, FY 91-95.

Fiscal Equity in Education

In many respects, the concept of fiscal adequacy has evolved from the scholarship of fiscal equity. This section will briefly review the literature related to fiscal equity in education. In the early 1900s, states allocated funds to local school districts on the basis of students without consideration of educational opportunities or the provision of at least a minimum program of education for all children (Johns and Morphet, 1975). The issue of equity in the scholarly

literature has been typically traced to Cubberley (1905), who along with theorists George Strayer, Robert M. Haig, Paul Mort and Henry C. Morrison became the advocates for state supported systems which included the equalization of educational opportunity by the process of equalizing financial support and the provision of an equitable system of taxation for school financing (Johns and Morphet, 1975). Equity and equality of educational opportunity received its greatest impetus in the 1954 Brown v. Board of Education case, in which the court invoked the equal protection clause of the Fourteenth Amendment of the United States Constitution, strongly emphasizing the value of education by reaffirming that every child was entitled to an equal opportunity to educational services and that equality could not be provided in socially separate school systems (Jordan and McKeown, 1980).

During the latter part of the 1950s and into the mid-1960s, significant growth occurred in public education funding. As the 1970s approached, school finance issues had become a major policy issue for legislatures as a result of rising educational costs and falling enrollments coupled with a slow down of new dollars to public education (Guthrie, Garms, and Pierce, 1988). Goodman (1985) reaffirmed that state policy makers were preoccupied with education equity issues including the expansion of access, the provision of equal opportunity, and the fairness of resource allocation. Conflicts arose concerning how much and where educational costs would be reduced. According to Guthrie, Garms, and Pierce (1988), during this time, education coalitions split; school boards and

legislatures were faced with an outcry from the public for greater accountability of educational funds; while taxpayers wanted local property tax burdens reduced or shifted to other tax sources. Tight resources forced an awareness that a wide disparity existed between tax rates and expenditures among school districts in most states.

Since each state has the primary responsibility for education, the states responded to the issue of equity in school finance. In the early 1970s, school finance reform swept the country. According to Fuhrman (1982), reform meant a great expansion in equalization programs with 28 states reforming their systems of school aid. However, the concept of equity in school finance as a focus moved into interpretations by the courts as a result of ineffective reform by the state legislatures (Alexander, 1982).

Theorists, the courts, legislatures, and the citizenry have been active in seeking to define the equity or adequacy of educational opportunities. Several scholars have offered definitions for equity. For example, Verstegen (1990) defined equity as the process of compensating for differences in order to make equal. The concept of equity was defined by Thompson, Wood, and Honeyman (1994) as a fair and just method of distributing resources to provide for children's needs. The next section will review the school finance litigation which had equity as its focus.

Equity and School Finance Litigation

Litigation provided the impetus for much of the reform related to fiscal equity. The early 1970s marked the beginning of school finance reform litigation which Thro (1990) describes as occurring in waves. The first wave of school finance reform occurred between 1971-73; the second wave of reform occurred from 1973-1989; and the third wave from 1989 to the present.

Equity was the center of the court cases during the early 1970s (Jordan and McKeown, 1990). Equity issues which dealt with equal fiscal inputs for all students with the intent to increase the level of fiscal equity, or access to funds per pupil dominated the fiscal litigation. School finance reforms implemented during this time were designed to reduce the linkage between local wealth and revenue and to decrease per pupil revenue disparities between more and less affluent school districts (Verstegen and Salmon, 1989). During this time, litigants were prompted to challenge state public school financing methods on the basis of inequities in the systems, in particular, those systems where local property values and the level of funding from the state determined the quality of a child's education (Brown and Elmore, 1982).

In the landmark San Antonio Independent School District v. Rodriguez case (1973), the premise for the suit was that the Texas public education funding system violated the federal equal protection clause by discriminating against a class of poor and that a right to an education was denied to the students. Wealth was argued as a suspect class and fundamentality or ones

right to free speech and right to vote were tied to education. The following case description provides a summary of this landmark decision:

> The case had actually been filed in 1968, and a three-judge panel had rendered a decision in 1971 holding the Texas system of school finance unconstitutional under the Fourteenth Amendment. The case was then taken on appeal by the U.S. Supreme Court.
>
> The Court, however, refused to accept plaintiffs' arguments since it found no identifiably suspect class. The injured class was argued by plaintiffs to be comprised of all students living in poor school districts, rather than poor students themselves. Under these conditions, the Court found no distinct suspect class and held that since no student was absolutely deprived of an education, fiscal inequalities were of only relative difference and not entitled to wealth suspectness.
>
> The Court then turned to plaintiffs' claims for fundamentality, again refusing to accept their arguments. The Court especially noted a difference between hindering a child from an education and the state aid scheme that, in its view, instead sought to improve available offerings.
>
> The federal case was thus turned aside at the highest level by *Rodriguez*, striking a death blow in the minds of reformers who had cherished high hopes for this next step in securing equal educational opportunity. (pp. 272-274)

In summary, the United States Supreme Court found that education was not a federal constitutional right thus becoming the first but not the only equal protection case concerning school finance to be considered by the high court to date (Burrup, Brimley, Jr., and Garfield, 1988). As a result of this case, school finance litigation was refocused from the federal courts to the state courts (Thompson, Wood, and Honeyman, 1994).

Important court actions during this period included Serrano v. Priest (1971, 1976, California) and Robinson v. Cahill (1972, New Jersey). A description of each follows:

> The state test is usually marked with the historic ruling of the California Supreme Court in *Serrano v. Priest*. Destined to become the classic model for state school finance litigation, this lawsuit charged that the state scheme for aiding public schools violated the federal and state constitution's guarantees of equal protection. Inherent to these allegations were concepts of fundamentality, wealth suspectness, and equal protection under the state constitution to which reformers had earlier pinned their hopes in the failed federal test.
>
> The landmark ruling in *Serrano* completely reversed every evident trend in school finance litigation, as the California Supreme Court found for plaintiffs on every cause. The court provided numerous condemning statements about unequal educational opportunity as it justified its ruling.
>
> Although *Rodriguez* would later invalidate the federal claims in *Serrano*, the case was powerful and decisive for school finance reform.
>
> The impact of *Serrano* was accelerated by the nearby New Jersey Superior Court decision in 1972 in *Robinson v. Cahill*. Plaintiffs had alleged that the state school finance scheme violated federal and state equal protection laws and that their fundamental right to education, in that tax revenues varied greatly by district wealth and were inadequately equalized by the state. This, according to plaintiffs, denied equal educational opportunity and equal protection by making the quality of education dependent on the wealth of each local district. The court nonetheless ruled the system unconstitutional by invoking the education article of the state constitution, which demanded a "thorough and efficient" system of education -- a requirement not met by the lack of equalization in revenues and thereby violating the state's equal protection clause (pp. 276-278).

These court decisions heralded the onset of the next wave of school finance reform and focused on equity and wealth disparity issues among school districts (Verstegen, 1994). Further, according to Verstegen (1994), the

California and New Jersey State Supreme Court rulings in these two cases signaled the viability of school finance litigation in state court systems.

Legal challenges to state aid distribution systems continued to be a major feature of school finance in the 1980s (Wood, Thompson, Bass, and Camp, 1989). Some of these challenges raised new issues, while others raised issues from previous litigation. Most school finance litigation which took place in state courts during this time was based on state constitutional guarantees. According to McCarthy (1994), all state constitutions address legislative duties in connection with education where the Federal constitution is silent. Further, only one state, Mississippi, has legislative discretion to provide education, whereas all other states have this as a mandatory constitutional duty.

Some state constitutions have clauses related to education which require, in simple terms, that education must be provided, others impose quality standards defined in terms of thorough, efficient, adequate, and uniform. The education clause in state constitutions has been used to advance equal protection claims - that education is a fundamental right according to McCarthy (1994). Further, the courts found that the provision of a nominally adequate education satisfied equal protection mandates. By 1983, LaMort (1989) reported that 17 state high court decisions had been rendered: seven states overturned existing school finance plans (California, New Jersey, Connecticut, Washington, West Virginia, Wyoming, and Arkansas) while 10 states had upheld

them (Illinois, Michigan, Idaho, Oregon, Pennsylvania, Ohio, Georgia, New York, Colorado, and Maryland).

Verstegen (1994) indicated that during the 1980s, school aid from all sources increased significantly, with state funds representing almost 50 percent of the school sources. Even with this rise of revenues, disparities in state distribution systems continued to exist. Litigation in several states in the late 1980s directed school finance reform into new territory. While litigants continued to emphasize disparities in relationships among wealth, tax rates, and revenues of school districts or equity issues, they also focused on the adequacy of resources for education; what the dollars were providing, not just the amount provided (Augenblick, Fulton, and Pipho, 1991). Following this discussion of equity issues and school finance litigation, the next section will review what the literature and court cases have to say about the concept of adequacy which has begun to emerge through equity scholarship, litigation, and policy.

Fiscal Adequacy in Education

As stated previously, financing public schools is a state's responsibility which implies that the state will ensure adequate fiscal resources to support local school districts. Policy-makers, although still concerned with equity issues, in recent years have turned their attention to the adequacy of education support (Goodman, 1985). Recent court challenges as well have incorporated a new approach based on the concept of educational adequacy (Minorini, 1994).

In education finance, the origin of the concept of adequacy is unclear and has remained elusive for years (Tron, 1983; Wise, 1983; Crampton, 1990). Cubberley (1905) and Mort (1946) equated the term of adequacy with equal educational opportunities. In 1972, the term, adequacy, reappeared in the Report of the Illinois Task Force on the Governor's Commission on Schools and the landmark school finance case, San Antonio Independent School District v. Rodriguez (1973, Texas) (Crampton, 1990). Since this case, many ways to discuss educational adequacy have emerged. However, what was central to the discussion was an understanding of the concept of adequacy which provided a direction for different assumptions and strategies.

Many definitions have been suggested by those seeking to provide meaning to this emerging concept (Tron, 1983). For example, adequacy is defined by Wise (1983) as the provision of that minimum educational opportunity necessary to (minimally) prepare students for adult roles. Carnoy (1983) described six different ways of viewing educational adequacy. These definitions included (1) adequacy as a purely educational goal or minimum standard of what pupils should know; (2) adequacy as improved internal efficiency or determining whether existing resources were being used efficiently; (3) adequacy as internal efficiency or the equalization of absolute outcomes at the end of the schooling process (4) adequacy as external efficiency or meeting the minimum requirements to function adequately in a modern society; (5) adequacy as external efficiency or providing an adequate education that would allow young

people to get a job related to their desired career; (6) adequacy as external efficiency or equalizing economic opportunity through improving education available to disadvantaged groups such as minorities and women. He concluded by emphasizing that adequacy definitions changed historically as the role of education changes. Such changes were political thus defining adequacy for a particular time.

Ward (1987) approached educational adequacy as encompassing measures of three different aspects of schooling. These included (1) school inputs such as resources and standards, (2) school outputs such as test scores, and graduation rates, and (3) school outcomes such as economic returns to education, good citizenship. He further stated that measurement problems existed for adequacy.

Adequacy as defined by McCarthy (1981) meant sufficiency for a given purpose. However, she warned that the assessment of educational programs or school funding plans could not be accurately determined unless agreement was reached regarding the purpose for which funding must be sufficient. McCarthy emphasized that even though there was little agreement on what the term adequacy implied that courts and legislatures were actually defining it by the standards they were imposing.

Thompson, Wood and Honeyman (1994) defined adequacy as the concept of having enough resources to provide for children's educational needs. Other definitions exist, however, as stated by Ward (1987), adequacy was defined in

state constitutions, state statutes, and state agency rules and regulations, court decisions, and policy decisions of the state and local boards of education. If this was the case, adequate education was what the political system defined as adequate in any state.

Defining the concept of adequacy in the context of school finance is important to the purpose of this study. The purpose of this study is not to provide the ultimate, unassailable definition of adequacy, but to suggest one way of looking at adequacy, specifically connecting it to the responsibility of the state to ensure adequate resources to local districts to ensure compliance with state proposed mandates. The concept of adequacy became a major issue through school finance litigation in the late 1980s. Long (1985) stated that the discussion of adequacy in school finance which reported inequalities in educational opportunities could be found primarily in court cases challenging school finance systems as unconstitutionally unequal or inadequate.

Hickrod, Hines, Anthony, Dively, and Pruyne (1992) stated that adequacy had become a goal for the states as the result of past litigation. The next section provides the framework for understanding the emerging concept of adequacy through school finance litigation cases beginning in the late 1980s through 1995. This discussion of litigation related to adequacy of funding will conclude with a summary of the cases and the contribution that the court decisions have made to clarifying the concept of adequacy in school funding.

Adequacy and School Finance Litigation

Courts have grappled with definitions of adequacy of funds to address state mandates, while state legislatures have struggled with the adequacy of state aid to meet educational mandates from the states to the school districts. School finance theories, as they have been incorporated in total or part, into school finance formulas in the states, have sparked a significant number of court cases over the years. In the early cases, equity was the priority, however, in recent years, increased attention has been given to the concept of adequacy. The following major recent cases were selected because of the relevance of the court decisions to the concept of adequacy. Each case is briefly described with a summary of the issues and the decision by the court. This section concludes with a summary of the contribution that the cases reported here each made to the concept of adequacy in school finance.

Edgewood Independent School District v. Kirby decided by the Texas Supreme Courts in 1989 centered on the plaintiff's argument that over one-third of the school districts in the state did not have adequate funds for education. The state's distribution system was found to be unconstitutional, violating Texas equal protection clause, education clause, and equal rights amendments, supporting the argument that the state had failed to provide a thorough and efficient educational opportunity. As a result of this decision, in the 1991 legislative session, the legislature wrote a new system of financing schools which

shifted current resources from wealthier to poorer school districts to provide that resources of the state be available to all the children of the state.

In Rose v. Council for Better Educ., Inc., decided by the Kentucky Supreme Court in 1989, litigants alleged in the Franklin County Circuit Court that the entire state system was inadequate. There were discrepancies in access to resources and in salaries to teachers. These discrepancies resulted in poorer school districts having more narrow curricula, higher dropout rates, fewer students entering higher education, and lower scores on standardized tests. The system was declared discriminatory and unconstitutional. The State Supreme Court upheld the Circuit Court's decision and virtually overturned Kentucky's entire system of education on the basis that of inadequate fiscal resources from the state.

McDuffy v. Secretary of Executive Office of Education decided in 1993 by the Massachusetts Supreme Court held that the Commonwealth was in violation of its constitutional duty to provide all public school students with an adequate education. The evidence supported the contention that the students in less affluent school districts were offered significantly fewer educational opportunities and lower education quality than students in schools in districts where per pupil spending was among the highest of all Commonwealth districts. Less affluent districts suffered from inadequate teaching of basic subjects, neglected libraries, inability to attract and retain high quality teachers, lack of teacher training, lack

of curriculum development, lack of predictable funding, administrative reductions, and inadequate guidance counseling.

The concept of adequacy became the focal point of the Alabama case in the Alabama Coalition for Equity, Inc. v. Hunt decided by the State Circuit Court in 1993. The court stated that education was inadequate by virtually any measure of educational adequacy, including the state's own standards and other professionally recognized measures of adequacy. Funding disparities were widespread and systemic, and did not just affect the very poor schools or the very wealthy schools. The state had a very low level of spending. Facilities, programs, and services were not adequate. Adequacy was defined for these purposes as sufficiency for a purpose or requirement.

The court agreed that the schools provided constitutionally inadequate educational opportunities to Alabama school children as measured by state and regional accreditation standards, Alabama education standards, school quality measures such as drop-out rates, workforce preparation, college-level remediation rates, as examples, and overall school funding. Absolute and relative adequacy were terms used by the court as another way to convey that Alabama fell short of the very state standards that the state determined were basic to providing children with minimally adequate educational opportunities. Included in the decision were statements which described the lack of adequate state funding to effectively meet state mandates. Poor school facilities, staffing problems and large class sizes, need for better trained staff, lack of updated

textbooks, lack of classroom supplies and equipment including library books and equipment, and outdated, unsafe buses were areas cited by the courts as deficient. In a summary statement, the court stated that Alabama schools fell below standards of minimal educational adequacy for facilities, curriculum, staffing, textbooks, supplies, equipment, and transportation standards adopted by the state.

In City of Pawtucket v. Sundlun, decided by the Rhode Island Supreme Court in 1995, litigants argued that children in poorer school districts did not receive an education that was as well funded as the education for children from wealthier districts. The Supreme Court agreed that the state constitution guaranteed a right to an equal, adequate and meaningful education. The court reviewed other cases which addressed the adequacy issue including Rose (where the court found that the state had failed to provide an equitable and adequate education). In Pawtucket, the court declared the system as unconstitutional based on the facts that the state failed to ensure substantial equality and adequacy of resources for children in all communities. However, on appeal, the decision was overturned on the basis that all schools teach the core subjects of reading, math and writing irrespective of district wealth.

Campbell County School District v. State of Wyoming, decided by the Wyoming Supreme court in 1995, focused on the education clause in the state's constitution and declared the state school finance system unconstitutional. The court had referred to the earlier Wyoming case Washakie County School District

No. One v. Herschler decided in 1980 by the state supreme court where the state school finance system was declared unconstitutional. The education article in Wyoming requires a complete and uniform system of public instruction, thorough and efficient, adequate to the proper instruction of all youth in the state. Funding disparities and local property values were cited by the plaintiffs as reasons for the failure of the system. The court in Campbell County stated that the children of the state had a fundamental right to education and education funding--that they could find no meaningful distinction between the right to an education and the funding to support education. Education is achieved as a result of public expenditures, thus the two are intertwined and cannot be considered separately. The courts linked education funding and education together in their decision to declare the system as unconstitutional.

Throughout these cases, the courts have described and sometimes defined adequacy within the context of the decisions particular to the state to declare the state funding systems as unconstitutional in the provision of adequate resources, thorough and efficient educational opportunities, and adequate schooling. Reviewing the definitions of adequacy by the various scholars in the preceding section and summarizing the court's decisions in these cases, the concept of adequacy was emerging as a significant change agent for the provision of educational opportunities as described by Wise (1983); educational adequacy as defined by Carnoy (1983) including educational standards for schooling and a future educated citizenry; school resources and

education outputs as defined by Ward (1987); sufficiency of resources as defined by McCarthy (1981); and having enough resources to provide for children's educational needs as defined by Thompson, Wood, and Honeyman (1994). Clearly, the court decisions were contributing as well as reinforcing the scholarly definitions for adequacy.

This literature review of the emerging concept of adequacy of school funding through scholarly definitions and court cases provided the background to understand the purpose of this study. The focus of the current study was to continue to address the concept of adequacy even though it will be more narrowly focused on the adequacy of funding statewide reform in Oklahoma related to one area in its 1990 reform bill (House Bill 1017), class size requirements. If the state policy dictated that educational quality was related to class size, one may infer from preceding litigation that the state guaranteed adequate funding to fulfill these dictates. The following discussion of educational reform establishes the context to understand the relevant dictates. The next section will trace the education reform movement since the 1890s in the United States. The last section of this chapter will focus on Oklahoma's educational reform legislation, House Bill 1017 passed in 1990 which includes class size requirements, the focus of this study.

Education Reform in the United States

As evidenced by these and other court cases, litigation has become common to force states to restructure school funding formulas (Thompson,

Wood, and Honeyman, 1994). Education reform has also provided a stimulus for revising school funding structures.

The previous discussion addresses the attention to the emerging concept of funding adequacy. This section briefly delineates the development of education reforms in the United States since the 1890s to better understand the specific context of the current study. This discussion is followed by a specific discussion of the reforms of Oklahoma, the state which was the focus of this study. While earlier discussions focused specifically on school finance reform in the context of equity and adequacy, the following is a discussion of education reforms in the broader sense.

General trends in education reform through the years were evident. In the more conservative 1890s, 1950s, and the 1980s, the academic aims of schooling, consistency, and rigor were stressed by reformers. The broader goals of society and schooling were the concerns of the more liberal 1930s, 1960s, and the early 1970s (James and Tyack, 1983; Firestone, Fuhrman, and Kirst, 1991).

For example, as early as 1893, the Committee of Ten on Secondary School Social Studies recommended changes in the curriculum to expand English, history, mathematics, science, and foreign language (Chance, 1992). The comprehensive high school was a result of a varied curriculum advocated by The Cardinal Principles of Secondary Education in 1918. Progressivism was the concept in the 1930s which included an expanded, more diverse curriculum. The National Education Association published a report in the 1940s which encouraged

the development of life adjustment curriculum as an addition to the curriculum (Chance, 1992).

In the 1950s, schools were criticized for permissiveness and godlessness, which created the climate for reform in schools which focused on teaching facts and skills, and rigorous academics, particularly in the science and mathematics curriculum. Sputnik in 1957 spawned the climatic social-political event that created a sense of public urgency about school reform and energized the generous federal funding of curriculum projects in mathematics and science. The decade of the 1960s included interest in social reforms, schooling issues, and national defense (Gibboney, 1994). The technical and industrial push to ensure superiority as a nation prevailed politically and educationally. A return to the basics and the re-establishment of a core curriculum were again the concerns of the late 1970s.

In fact, during the late 1970s, the alarming realization that our public schools were failing to accomplish their central academic mission triggered the longest and most intensive school reform in American history (Bradley, 1993). The forces which created the perception and ultimately the belief that American education was in a crisis spawned the most notable of the various reform reports, A Nation At Risk, published by the National Commission for Excellence in Education (1983).

According to Murphy (1990), this report began what has been called the first wave of reform. The content of this report and other like-minded reports

assumed a top-down, bureaucratic approach to resolve the problems of poor academic achievement. High school graduation standards, attendance standards, academic standards for athletics and extracurricular activities were raised. Student-testing programs and teacher-testing programs were initiated (Jordan and McKeown, 1990).

No sooner had these reform initiatives been put in place by most states than the criticisms began. One of the major criticisms was that the entities which were required to implement the initiatives, e.g., school administrators, teachers, principals, and parents, had been "left out" of the first reform efforts.

Restructuring was the call of the second wave of reform which began in 1986 (Murphy, 1990). The areas of professionalism of teaching, the development of decentralized school management systems, and the enactment of specific topics, e.g., programs for "at-risk" students, were the primary focus of the second wave of reform (Murphy, 1990). The thought was to overhaul the system (Carnegie Forum on Education and the Economy, 1986).

Tracking the status of the third wave of reform in the states has been difficult because it focuses on the delivery of services to children. It was a children's policy; not a school policy (Odden, 1989). The approach was integrated, inter-organizational, and inter-professional for the delivery of services to replace an uncoordinated and unconnected series of approaches that existed at that time (Olson, 1989).

According to Chance (1992), this series of reform movements endured longer than most. However, most states remained in the first wave of reforms which were considered as top down initiatives for various reasons. Financial constraints and educational politics could have been the most obvious reasons for the "stall" in the continued reform movements in most of the states.

Education Reform in Oklahoma

With first wave of reforms occurring between 1983 and 1986 in most of the other states, Oklahoma's education reform measure, House Bill 1017, was passed by the Oklahoma legislature in 1990 (Firestone, Rosenblum, Bader, and Massell, 1991). This legislation included some of the most intense, far-reaching reforms when compared to other states. The reform initiatives passed by the Oklahoma legislature reflected the initiatives in place earlier in other states, including, higher achievement standards, accountability, core curriculum, teacher training and testing.

In Oklahoma, the Education Reform Act of 1990 provided funding and an impetus to improve schools. Oklahoma educators and legislators, as with those in other states, recognized the need for improvement which led to a highly controversial, critical, and expensive campaign for educational improvement. Throughout the rest of this chapter, a summarized history of the reform initiatives pursuant to the Oklahoma Education Reform Act of 1990 will provide the specific context for the study.

In the late 1980s, Oklahoma was deficient in many areas regarding educational funding, support, and school performance as evidenced by various educational statistics. Information provided by the House Education Committee report, Education Update (1990) revealed that in 1988-89, Oklahoma ranked 48th out of the 50 states in teacher salaries; 43rd in their tax effort; 27th in population; 26th in enrollment, 18th in area, but sixth in the number of school districts; 46th in estimated current expenditures for public elementary and secondary schools per pupil in average daily attendance; 24th among the 28 states that use the ACT test; 30th in high school graduation; and 23rd in pupil teacher ratio. During this same year, 24.5 percent of enrolled students in Oklahoma were minorities, but only 7.3 percent of the professional staff were minorities.

Public attention to these conditions represented by these statistics led to the need for reform. In May, 1989, the Governor created "Task Force 2000" to investigate Oklahoma's public education system and to make recommendations for improvement to the Legislature. The task force recommendations coupled with other legislative proposals for major educational reforms merged into legislation known as House Bill 1017, which was signed into law in April, 1990. A $230 million tax package was a part of this legislation. A great deal of controversy surrounded the passage of the bill which included a teacher walkout and massive demonstrations, both for and against the measure. In the fall of 1991, after a referendum petition was presented to the Governor, a vote was

held on the future of House Bill 1017. After the acrimonious campaign, 54% of the voters in a statewide election rejected the repeal effort.

Since that time, efforts have been made to amend and revise the level of funding initially committed to adequately fund the provisions of the law. Funding for House Bill 1017 was completed in 1995. A summary of the reforms organized by major categories and the funding which was projected at the time the legislation was enacted follows.

Reforms Related to Student Performance

Reforms related directly to student performance included early childhood programs for at-risk four-year olds; an emphasis on core courses and making high school graduation dependent upon attaining a certain competency level; encouragement of greater use of technology and innovation in the classroom; more appropriate pupil testing to measure pupil skills; reduced class sizes to 20 students in grades K-6 and limits on the total number of pupils a secondary (grades 7-12) teacher instructs to 140 by the 1993-94 school year; an extended school year option to school districts; encouragement of parental participation in the education of their children; and the implementation of strong school accreditation standards.

Reforms Related to Teacher Compensation and Training

Reforms which related to the compensation and training of teachers included a teacher salary increase plan and incentive pay which raised a beginning teacher's salary to $17,000.00 in 1990-91; $18,660.00 in 1991-92;

$20,460.00 in 1992-93; $22,260.00 in 1993-94; and to $24,060.00 in 1994-95. Reforms which related to teacher preparation required a study on teacher training to ensure teachers of the future were prepared for the new challenges facing education. Reforms were also included in House Bill 1017 to change the alternative teacher certification process for secondary foreign languages, math, or sciences.

Reforms Related to School Accountability

Reforms relating to the accountability and structure of the schools included replacing the current tenure system for teachers with a stream-lined due process system; a school consolidation plan; a requirement that school board members have a high school diploma or GED; elimination of the office of County School Superintendent; and power for the State Board of Education to close schools unable to meet accreditation reform requirements. For high schools, the timeline to meet these accreditation standards was June 30, 1995; all other schools had until June 30, 1999.

Projected Funding for Reforms

The reforms were projected to be funded with an increase of ten percent in state personal income tax collections in the amount of $104 million; a five percent to ten percent increase in a corporate income tax of $22 million; and an increase of four to four and one half percent sales and use taxes of $104 million. The total projected taxes were $230 million to support the reform measure.

Another major component of the reform bill included state questions which required a vote of the people to revise the state constitution to implement the common school fund. The common school fund revisions would have allowed revenues which are collected and distributed to various districts in the state to be distributed by the state on an equalization basis. The common school fund would have redistributed significant monies through the state aid formula to support the reform initiatives. However, in a statewide vote in 1991, these state questions failed.

Major Components of House Bill 1017

The major components of House Bill 1017 are summarized as follows as a review of the initiatives as they were enacted. Changes have occurred throughout the 5 years of implementation for some of the timelines and provisions which were postponed due to lack of funding or other legislative directions. For the purpose of this study, changes which have occurred in the funding and class size provisions will be described in detail in Chapter III. Other changes in the various reform initiatives are not discussed since they are not relevant to this study.

According to House Bill 1017, state accreditation standards would be denied or withdrawn from schools which did not meet the established accreditation, minimum salary, curriculum, and class size standards. The State Board of Education adopted standards which were to meet or exceed standards set by the North Central Association of Colleges and Schools.

Curriculum standards were to meet or exceed the North Central Association of Colleges and Schools' standards. Students were to have access to course offerings that would permit them to enroll at either of the state's two comprehensive universities without having to enroll in remedial courses. Students were to be given the opportunity to access computer technology. Career exploration activities and optional desired levels of competencies for high school graduation rather than traditional course credits were to be developed. Competencies in the core curriculum were to be the basis of school promotion except for students with individualized education plans (IEP's).

At the time of the legislation, Oklahoma ranked sixth in the country in the number of local school districts. Funding was provided to schools that developed and implemented school consolidation plans. Transfer agreements were also a part of the provisions.

Other specific components of this legislation (Enrolled House Bill 1017, 1990) that were to be implemented and not discussed in detail earlier included:

1. The State Department of Education was to review existing norm-referenced tests available.
2. The use of school buildings for community functions was encouraged.
3. Time-off from employment for parents to attend parent-teacher conferences, and parent-teacher programs were directed to be implemented for children under the age of three who were identified as "at-risk".

4. Innovative pilot projects were encouraged to replace the existing traditional organizational structure in schools and the district.
5. Alternatives to corporal punishment for classroom discipline were encouraged by the State Department of Education.
6. Model incentive plans were to be developed by the State Department of Education.
7. Teachers and administrators could be reimbursed partial costs for tuition for college courses which met staff development requirements.
8. A model program was to be developed by the State Department of Education and State Regents for Higher Education for the recruitment, training, and placement of minority educators.
9. School administrator leadership training programs were to be developed using models from the private sector.
10. Dependent elementary school principals were required to have administrative certification by July 1, 1993.
11. Determining the duplication and overlap of services in the delivery of educational services were to be examined.
12. Parents were required to sign a written statement if they chose to advance their child to the next grade over the recommendation of the teacher.
13. Provisions were implemented which addressed the due process rights for career and probationary teachers. Admonishment for poor

performance or conduct could be provided by the Board of Education if the administrator failed to admonish the teacher.

14. School districts which exceeded the limitations placed in the law would have their state aid reduced by the amount exceeded.

Details for the class size requirements and the state aid formula are found in Chapter III. However, for the reader, the stated purpose for this study is described below as further context for this study. Class size requirements were a part of the reform efforts in Oklahoma because the legislature believed that smaller class size improved students' performance which was supported by a large body of literature. For the purpose of this study, the focus was on the adequacy and equity of funding these mandates, not on the educational value of reduced class sizes. House Bill 1017 class size requirements included a reduction in class sizes for grades K-6 to 20 students by FY-94 which was later amended to extend the reduction to FY-95. For grades 7-12, no more that 140 students on any given six-hour day was required beginning with 1993-94 as well with future timelines to reduce this number to no more than 120 students on any given six-hour day beginning with 1997-98.

Research regarding the adequacy of funding the reform initiatives, specifically class size reductions, does not exist. With the conclusion of funding in FY-95, school districts continued to implement provisions of House Bill 1017 without the level of funding previously committed during the five years of implementation. One significant question was the extent to which funding of the

reforms from the state was adequate for financially assisting local school districts in maintaining these class size restrictions.

Summary

This chapter was divided in seven sections which provided a review of literature related to equity, school finance litigation, and adequacy. Special focus was on the major concept of adequacy from the scholarly literature and litigation. Chapter III provides the details of the class size requirements, the school finance formula and the methodology used to answer the research questions.

CHAPTER III

Research Design and Methodology

As stated in Chapter I, the primary purpose of this study was to examine the adequacy and equity of funding the elementary class size requirements of House Bill 1017 during the years of implementation (FY 91-95). Recent school finance court cases have contributed to the body of knowledge for adequacy issues. However, adequacy of funding for educational reforms and in this study, specifically adequacy of funding elementary class size requirements has not been studied.

The purpose of this chapter is to describe the procedures utilized in this study to answer the questions in this study. The questions addressed in this study are presented below:

Question One: Is there evidence that inadequate state general aid funding was provided to assist local school districts in meeting an increasingly restrictive array of elementary class size requirements during the years of implementation of House Bill 1017 (FY 91-95)?

Question Two: Did the increasingly restrictive elementary class size requirements and concomitant state aid result in decreased equity of the distribution of state aid based on local district wealth, during the years of implementation of House Bill 1017 (FY 91-95)?

This chapter is divided into four sections. The first section, above, described the statement of the problem and the questions addressed in the study. The second section is a general description of Oklahoma's school funding system beginning with FY-91 through FY-95, the years of implementation of House Bill 1017, which provides the context for the study. The third section includes a discussion of the data analyses. The section begins with a delineation of the procedures for data collection followed by a discussion of the methodology employed to answer the research questions presented in the study. It also includes the configuration of the variables and regressions utilized to analyze the data. The fourth and final section provides a chapter summary.

Oklahoma School Funding Program

The state funding program, adopted in 1981, with subsequent modifications in 1989, and in 1990 with the passage of House Bill 1017, sought to address variations in local educational costs and financial resources. The formulas were derived from work done in other states, Florida in particular, and research done in Oklahoma.

Prior to 1981, Oklahoma's funding program consisted primarily of a distribution system which recognized local district income and state resources, but not to the extent of fully equalizing the local income with the state resources. This lack of equalization was evident in the distribution of flat grant amounts for vocational education and special education student programs and teacher and support salary increases in lump sums outside of the distribution formula (Parker

and Pingleton, 1981). In other words, significant amounts of state monies were allocated to school districts by-passing the equalization components of the state aid formula. The equalization components provided a level of revenue that every district could generate less the district level of specified tax and other income efforts required before distributing state financial assistance.

With the 1981 state aid changes and subsequent modifications, the formula addressed the equity concerns recognizing that the cost of providing an education varied with students and with districts. This recognition identified closely with the definition of equity advanced by Verstegen (1990) and Thompson, Wood and Honeyman (1994), that equity meant compensating for differences to make equal or as a fair and just method to distribute resources to provide for children's needs.

The following sections provide a description of the state aid formula as a background for the elementary class size requirements which are the focus of the study. The elementary class size requirements were selected as the focus of this study because the requirements became more restrictive each year of implementation, FY 91-95. Secondary class sizes did not become increasingly restrictive during these years of implementation. Various components of the state aid formula are described in some detail in the following sections. The description of the state aid formula was a compilation of various state laws including House Bill 1017, in the development of this component of this study.

Some information was drawn from State Department of Education Technical Assistance documents.

General Description of Local and State Resources and State Aid

The state provided assistance to school districts through a formula consisting of three components: Foundation Aid, Transportation Supplement, and Salary Incentive Aid. These three general funding formula mechanisms constituted the basic financial support for the public (K-12) schools.

All three formula components accounted for the resources generated by local school districts in Oklahoma for the calculation of state assistance. In other words, while all Oklahoma school districts had the ability to raise revenue locally to support education, this ability varied among school districts (Oklahoma School Finance, 1986). These varying abilities were the result of local property bases upon which each district levied constitutionally established tax levies at 35 mills and 4 mills on a county-wide basis for the general fund.

The Oklahoma legislature was empowered to enact laws classifying the uses of property through Article 10, Section 8 of the Oklahoma Constitution. For tax assessment purposes, property was classified as real, personal, public service, and railroad and airline. County assessors assessed real and personal property at rates/ratios between 11 percent and 13.5 percent of value. Public service property was centrally assessed by the Oklahoma Tax Commission at 22.85 percent. The State Board of Equalization had the duty to ensure that public service property assessments were uniform across the state.

As a component of the total valuation of a school district, real property was assessed annually as of January 1. It was assessed at its fair cash value, an estimate of the price it would bring in a voluntary sale for the highest and best use for which the property was actually used during the preceding calendar year or was last classified for use if not actually used during the preceding calendar year (Center for Education Law, 1997).

For personal property, the household portion of personal property could be dropped from the tax rolls if approved by the voters in the county. The tax collections would remain neutral because the constitutional tax levy would increase to make-up for the lost valuation.

Centrally assessed public service property has come under great debate by the public service companies which have been seeking to lower their property taxes from the 22.85 percent to the 11 percent to 13.5 percent locally assessed ratio. This study will not expand on this component of property valuation; however, the impact of a reduced ratio would mean not only tax revenue decreases for schools, but also, could mean state aid redistribution and/or the requirement for additional state monies to school districts as a result of a lower tax effort on the part of the public service companies.

The variant ability to levy the taxes against the property tax base was determined by the tax assessment practices and the local property tax bases. The state aid formula recognized these variations in taxing ability for the distribution of state monies. The foundation aid component assumed that the

assessment ratio, which was applied against the real property valuation for all counties, was at 11 percent. All property valuation was then multiplied by the constitutionally established mills to determine the local income. These mills were defined in the Oklahoma Constitution, Article X, Section 9, for the sources of school revenue from taxes on taxable property within the school district for the general fund.

One of the levies included was the 15 mill levy. Based on the certification of need by the local board of education, the levy was applied to the taxable property in the district. No election was required for the annual levy. Another levy was the County five mill levy. Five mills of a 15 mill county levy were apportioned to school districts of the county. No election was required for this levy. The Emergency five mill levy was applied to the taxable property in the district if approved by a majority of voters at the annual school election. And last, the Local Support ten mill levy was applied to the taxable property in the district if approved by over 50% of voters in the annual school election.

The income from the 15 mill certification need levy was annually subtracted to determine state foundation aid. Seventy-five percent of the county four mill income was subtracted from the amount earned by the district. The salary incentive aid component equalized the other 20 mills of the 35 mills of local income as an incentive to support the operation of the schools (Parker, 1983).

The state allocated various taxes and fees to school districts and counties where monies were distributed on a per student basis. Disparity existed for the allocation of these taxes and fees as a result of the location of these services and the number of students in the districts. The principal sources of state dedicated revenues were gross production, which was a tax generated on oil, gas and other minerals as they were produced. Ten percent of the tax generated from this production in a county was allocated back to the county for distribution on an average daily attendance basis among the county's independent school districts.

Motor vehicle collections included revenues generated by this tax from the motor vehicle fees and registrations which were collected at the state level. School districts received 35 percent of the collections from the state level on the basis of average daily attendance. Another tax, the R.E.A. tax was levied on rural electric cooperatives based on property valuation and the number of miles of transmission lines within each district served.

School land earnings were based on federal land grants which were required to benefit the schools were rented, leased, or sold with the income from the interest, rental, or lease distributed to school districts across the state on the basis of average daily attendance. The lands were administered by the School Land Commission.

As noted in Chapter II, the common school fund was created to collect and distribute these principal sources of state dedicated taxes and fees statewide; however, the constitutional revision questions were defeated in a

statewide vote in 1991 after the passage of House Bill 1017. The state aid formula recognized these revenues and subtracted this amount from the amount of state aid earned by the district.

Annually, the legislature appropriated state monies for the financial support of public (K-12) public schools. The appropriations were certified by the State Equalization Board based on the availability of state monies from various taxes and fees collected at the state level into the state's general revenue fund. Many agencies competed with public schools to receive their share of the available money. The most significant amount of the money received from the general revenue fund for school districts was appropriated for the state aid formula for distribution through the Foundation and Salary Incentive Aid components of the formula. Through the state aid formula, the cost factors for various student populations in each school district were addressed through a weighted pupil approach. Oklahoma had a limited form of pupil weighting for many years with elementary students weighted at 1.0 and secondary students weighted at 1.2 prior to the 1981 state formula revisions (School Finance Technical Assistance Document, 1996).

The weighted pupil approach recognized the added expenditures required to provide education services to pupils in special programs and/or districts with special characteristics, vertical equity was encouraged as well by requiring that districts capable of supporting the extra costs do so through other income (Augenblick, Palaich, McGuire, and Adams, 1982). In other words, districts

which received greater percentages of local income from ad valorem or in lieu of taxes income utilized these sources to support additional costs. The state aid formula reduced the amount of state money to these districts as a result of higher local income.

State Aid Formula Calculation

As previously stated, the basic financial support to school districts, or state aid as it was better known, was distributed through a formula consisting of three components: foundation aid, transportation supplement, and salary incentive aid. To understand the context for the formula calculation as the preliminary step before calculating the formula, a description of the weighted average daily membership follows.

The first step was to select the highest of the past two years raw or unweighted average daily membership. Next, the pupil weights were determined for calculating the district's eligibility for state-appropriated money for both foundation aid and salary incentive aid. The following section describes how the weights were used in the state aid formula and how the weights were determined in general, not for specific years from FY 91-95, the years included in this study.

Formula calculations were based on weighted average daily membership. Grade level weights were adjusted in House Bill 1017 from previous weights assigned to grade levels to address the cost of meeting class size requirements,

the focus of this study. A comparison of the weights by the following grade levels was as follows for the years reflected in Table 1.

The weighted grade levels were combined with other weighted pupil categories including special education, gifted, and economically disadvantaged student counts. The district calculation for the small school district or sparsity-isolation weight was added to the pupil categories as well to arrive at a total weighted pupil membership. The weights for these categories were provided in Table 2.

Table 1
Historical Comparison of Grade Level Weights

1981-86	1987	1988-89	1990-1995
			Early childhood = .5
K-2 = 1.3	K = 1.3	K = 1.3	K = 1.3
3-6 = 1.0	1-2 = 1.317	1-2 = 1.334	1-2 = 1.351
7-12 = 1.2	3 = 1.017	3 = 1.034	3 = 1.051
	4-6 = 1.0	4-6 = 1.0	4-6 = 1.0
	7-12 = 1.2	7-12 = 1.2	7-12 = 1.2

The special education child count weights were based on data compiled as of December 1 of each year for students served with an individualized education plan. The gifted child count weights were based on data compiled as of December 1 of each year for students who qualified based on scores in the top three percent on any nationally standardized intelligence test and other students

who excelled in creative thinking, leadership, visual performing arts, and specific academic abilities. For the gifted categories of students who excelled in creative thinking, leadership, visual performing arts, and specific academic abilities, school districts were limited to 12 percent of the average daily membership which later changed to a limitation of 8 percent of the average daily membership.

Table 2
Pupil Category Weights

Special Education and Other Pupil Category Weights	
Learning Disabled	.40
Hearing Impaired	2.90
Visually Impaired	3.80
Multiple-Handicapped	2.40
Speech Impaired	.05
Traumatic Brain Injury	2.40
Autism	2.40
Mentally Retarded	1.30
Emotionally Disturbed	2.50
Physically Handicapped	1.20
Deaf/Blind	3.80
Special Education Summer School	1.20
Bilingual	.25
Gifted	.34
Economically Disadvantaged	.25

Bilingual child count weights were compiled from the accreditation reports in October of each year for students who were limited English speaking or who came from homes where English was not the dominant language. The economically disadvantaged child count weights were based on the data compiled as of October and November of each year for students who qualified

for free or reduced lunches. The state selected the highest overall state count utilized for the state aid formula.

The district calculation for the small school weight and sparsity-isolation formula was based on the size and area served. The small school weight calculation for additional weighted pupils was based on school districts with less than 529 students in average daily membership. If the school district's average daily membership was greater than the 529 students, the district would have to qualify for additional weights through the sparsity-isolation factor based on the total area of the district in square miles. The school district could qualify if the total area of the district was greater than the state average in square miles which was 142. The areal density of the district was determined by dividing the district's average daily membership by the district's total area in square miles. If the areal density was less than 1.92, the district would be eligible for an isolation weight. For the weighted pupil calculation, the district would receive the greater of the small school district weight or the isolation weighted, but not both.

The teacher index weight was based on the years of experience and degrees of teachers in a school district. The state calculated this component based on information from each school district's teacher personnel report. The years of experience by degree level were weighted starting with a bachelors degree to a doctorate degree through 15 years with a single weight for any years above 15. The teacher index is included in Table 3.

Table 3
Teacher Index Table

	Bachelor's Degree	Master's Degree	Doctorate Degree
Years Of Experience	Weight	Weight	Weight
0 – 2	.7	.9	1.1
3 – 5	.8	1.0	1.2
6 – 8	.9	1.1	1.3
9 – 11	1.0	1.2	1.4
12 – 15	1.1	1.3	1.5
Over 15	1.2	1.4	1.6

The weighted average district teacher was determined by the degree and years of experience for each teacher in the district multiplied times the index for the various degrees and years of experience as described in the table above. Each degree level was totaled for a degree index which was then divided by the number of teachers to determine a weighted average district teacher.

The weighted average district teacher calculation was then subtracted from the weighted average state teacher to determine if the district would be eligible for the school district teacher index. If the district's weighted average teacher was greater than the weighted average state teacher, the result was the school district teacher index. This index was then multiplied times .7 (at the time the formula was developed, 70 percent of district monies were determined to be expended for teacher salaries) which then was multiplied times the sum of the higher grade level weighted average daily membership plus the economically disadvantaged weight, to equal the weighted teacher index. The teacher index weight was the only weight to remain solely in the salary incentive aid portion of

the formula. With the passage of House Bill 1017, the weighted pupil categories became consistent in both sides of the formula, the foundation aid and the salary incentive aid components, with the exception of the teacher index weight.

Next, the major components of the state aid formula beginning with foundation aid, then transportation aid supplement, and last, salary incentive aid will be described.

The basic structure of the foundation program was simple: the state established a foundation level and a local tax effort and then paid the difference between the amount of revenue generated at that effort and the amount guaranteed as a foundation (Augenblick, Fulton, and Pipho, 1991). The foundation program was determined by the district's weighted average daily membership, described above, multiplied by the Base Foundation Support Level. The Base Foundation Support Level was determined by annual legislative appropriations, based on the amount of state money certified by the State Board of Equalization. The state legislature split the available state aid appropriation in the components at three-sevenths in foundation aid and four-sevenths in salary incentive aid. The factors for distributing monies to school districts in the foundation aid and salary incentive aid components of the formula were based on the level of appropriation which changed each year of implementation as a result of the state income dedicated to the funding of House Bill 1017.

Foundation aid was first determined by multiplying the Base Foundation Support Level times the weighted pupil units. To ensure that local effort was

made by the district, local and state dedicated income were subtracted or charged against the amount earned by the district. The local and state dedicated income charged in the state aid formula were the collections of the adjusted assessed valuation of the prior year, based on a ratio of 11 percent, multiplied times 15 mills; 75 percent of the second preceding years' collections of the county four mill levy, school land earnings, gross production tax collections, motor vehicle and R.E.A. collections. The foundation program income resulted after the local and state dedicated sources were deducted from the amount earned by the district. These sources of income were previously described in detail as the basis for use in the state aid formula.

The transportation supplement component of the state aid formula did not contribute fiscal equity to the formula as did the foundation program, but rather was based on different criteria. It assisted with the cost of transporting students based on the number of miles served by a district and the density of students per mile within a district.

The transportation supplement allocated state monies to school districts based on the average daily haul, which represented the number of students legally transported who lived one and one-half miles or more from school. The average daily haul was then multiplied times a per-capita allowance, determined annually by the legislature, based on the number of students transported per square mile in a district. The per capita allowance index and the per capita amount per pupil of 1.39 were not changed during the years represented in this

study. Transportation aid was a part of the total state general aid, but it was not affected by nor did it contribute to the determination of equity or adequacy within the formula. The next component of the state aid formula was salary incentive aid.

The basic structure of salary incentive aid was that it guaranteed to each district a dollar amount for each mill the district levied above 15 mills for each weighted average daily membership unit in the district. Its purpose was to encourage districts to provide tax support at the local level. The name for this component came from the millions of dollars for salaries which were funded as line items and distributed outside of the equalization components of the formula prior to 1981.

This component was first determined by the weighted pupil units, calculated as previously described including the teacher index in this portion of the formula only, multiplied times the Incentive Aid guarantee, the amount that was determined by legislative appropriations. The product was the total amount per mill that the state guaranteed to a school district. Next, the district's adjusted assessed valuation (the same valuation used in the foundation aid component) was divided by 1000 to determine how much the school district could raise from each mill of tax levied. The amount that the state would guarantee to a school district less the amount the district could raise from each mill of tax levied was the amount that the school district received from the state to reach the guaranteed amount.

As an incentive to the district to vote the mills which were constitutionally authorized, this component of the formula guaranteed an amount per mill voted above the 15 mills which were equalized in the foundation aid component of the formula. Districts had the option to levy up to 20 mills, equalized by the state. The 20 mills were then multiplied times the amount guaranteed per mill as calculated above to arrive at the total amount of salary incentive aid to the district. If the school district did not vote the mills established by the constitution, the state aid formula did not provide this guarantee thus a loss of state income for not supporting the district at the local level.

The foundation aid, the transportation supplement, and the salary incentive aid were added together for the total general state aid to the district. The amount was adjusted for class size penalties as well as for other additions and reductions authorized by law.

In addition to the state aid, the legislature annually appropriated monies for categorical line items. These monies were not discussed as a part of this study.

The purpose of the current study was to examine elementary class sizes as mandated by House Bill 1017. The previous section was intended to provide a thorough understanding of the Oklahoma school funding structure. Next, the class size requirements which were the focus of this study, are discussed in some detail.

Class Size Reduction Mandates

The class size reduction mandates in House Bill 1017 were one of the more costly reforms. In an unpublished report to the Senate Appropriations Committee (1993), the senate fiscal staff projected the cost for this reform component alone to exceed 30 million dollars over the course of the years of implementation of House Bill 1017.

Class sizes were calculated on the basis of the average daily membership divided by the number of teachers by class, excluding special education classes. Class size reduction requirements had a greater impact on the lower grade levels K-3 than on other grade levels 4-6 and 7-12 because there were few exceptions to avoid financial penalties for exceeding these class sizes.

The class size reduction schedule as proposed in House Bill 1017 is presented in Table 4. The schedule for implementation was modified by subsequent legislation; however, the result was the same with 20 students per class in grades K-6 by 1994-95. Classes could not exceed the requirements defined in the law with only a few exceptions.

The exceptions to avoid financial penalties for exceeding class size were to employ a teacher's assistant with up to nine additional children in grades kindergarten through three. For grades 4-6 and 7-12, before an additional teacher was added, the class could exceed the limits up to 15 students and the classes could exceed the class size limit with a five percent deviation.

Table 4
Class Size Reduction Schedule

	K	Grades 1-3	Grades 4-6	Grades 7-12
90-91	24*	21	23	-
91-92	23	-	22	-
92-93	22	-	21	-
93-94	20	20	20	No more than 140 students on any given 6 hour day.
97-98	-	-	-	No more than 120 students on any given 6 hour day

*Students per class

Additionally, school districts would not be penalized for exceeding class size limitations during the last nine weeks of the school year; if the school district voted indebtedness for more than 85 percent of the maximum allowable; or the district called for such bond election; or the board of education was in the process of completing a bond issue to be voted on during the current fiscal year; and if the school district voted the maximum millage allowed by the state constitution for the support, maintenance, and construction of schools. These provisions were modified as well during the years of implementation to be more restrictive for school districts eligible to avoid the penalties for exceeding class size limitations.

During the years of implementation, class size reductions as mandated by House Bill 1017 and projected to cost over 30 million dollars by the legislature, became a financial concern for school districts as the money was distributed through the state aid formula to meet the projected costs. The purpose of this study is to examine the adequacy and equity of state funding in assisting districts in meeting these class size mandates.

Design

The research design for this study utilized quantitative methods. Data for the study were obtained from the Oklahoma State Department of Education. The population for the study included school districts in Oklahoma during the years of implementation, FY 91-95. The data that were provided included state general aid formula monies which were foundation aid, transportation supplement, and salary incentive aid; average daily membership by grade level by district; and, the net assessed valuation each by district for the years of this study, FY 91-95.

Data Analysis

This study examined two issues, adequacy and equity, relative to the implementation of the class size requirements for House Bill 1017. As House Bill 1017 progressed through the five years of implementation, FY 91-95, class size requirements became more restrictive.

To answer one of the research questions posed by this study which was to determine if there was evidence that inadequate state general aid funding was

provided to assist local school districts in meeting an increasingly restrictive array of elementary class size requirements during the years of implementation of House Bill 1017 (FY 91-95), simple linear regression analysis was utilized. This study sought to determine through this technique if there was any relationship between state funding and the class size mandates pursuant to House Bill 1017.

The study examined fiscal effects, e.g., adequacy and equity of these increasingly restrictive elementary class size requirements. To address the adequacy issue and to determine if as state aid increased was there evidence that the dollars were not adequate, an adequacy test was applied. In order to examine the adequacy of state appropriations, in the face of progressively declining elementary class sizes through the duration of the implementation of House Bill 1017, a simple linear regression was utilized to assess the relationship between elementary class sizes and state appropriated dollars among the districts. As monies from the state increased and with the student enrollment-driven state aid formula, per pupil student funding increased. However, along with the increases in state aid, more restrictive class size requirements occurred. The regression analysis assessed the degree to which changes, if any, occurred in the per class funding from the state, given the increasingly restrictive elementary class size requirements.

Before describing the simple linear regression utilized to answer the first question posed by this study, the procedures for simulating the class size and concomitant state aid were based on the data collected from the Oklahoma

State Department of Education. The original intention of the study was to collect actual class size data by district from the State Department of Education. However, actual class size data by district were not available in a consistent format for the years of this study which required that simulated data be utilized to answer the questions posed by this study. State aid per classroom by district was collected and simulated for kindergarten grades, grades one through three, and grades four through six. The classroom simulation process was to match state aid dollars for class size groupings by kindergarten through six grades.

For each school district in the state, the average daily membership (ADM) by grade level was grouped by years of implementation as follows:

	1991	1992	1993	1994	1995
Kindergarten	ADM	ADM	ADM	ADM	ADM
Grades 1-3	ADM	ADM	ADM	ADM	ADM
Grades 4-6	ADM	ADM	ADM	ADM	ADM

For each individual fiscal year included in the study, the average daily membership for each grade level was divided by the class size requirement for the grade level as per House Bill 1017 to determine the minimum number of classes needed to meet the class size requirements. The total minimum number of classes for kindergarten through sixth grades was determined by year for each district. For each district, the number of classrooms were rounded up to the nearest whole number, e.g., 27 students equaled two classrooms. For the purpose of this study, teacher assistants were not considered in the simulations

for determining the minimum number of classes needed to meet the class size requirements.

To determine the amount of state aid per simulated classroom, the district's K-12 ADM for each year of implementation was divided by the district's K-6 ADM to arrive at the percentage of total ADM. The K-6 ADM percentage of total K-12 ADM by district, by year was then multiplied times the aggregated state aid by district to arrive at an amount of state aid for grades K-6 in each district. State aid for grades K-6 was divided by the minimum number of classes required (calculated above) to arrive at the state aid dollars per simulated class for all elementary grades. Simulated state aid per classroom was used as a variable in each of the two regressions.

Given these simulated class sizes, simple regression was applied to determine the relationship between the years of implementation of House Bill 1017 (FY 91-95) and the state aid per simulated classroom. The simple regression model was the appropriate statistical analysis when investigating the relationship between the independent and dependent variables (Moore & McCabe, 1989).

For the first part one of this analysis for testing the adequacy issue, the variables were as follows:

x = A continuous independent variable representing the years of implementation of the class size requirement of House Bill 1017 (FY 91-95).

y = A continuous dependent variable representing state aid per simulated classroom for each district for the years of implementation of House Bill 1017.

The regression analysis determined the extent to which the increasingly restrictive state class size mandates became more cost prohibitive to districts as a whole, relative to state formula aid through the years of reform implementation. In other words, was there evidence of inadequate state dollars to assist districts in meeting the mandates as the implementation of House Bill 1017 progressed and the requirements became more restrictive?

To test for evidence of a relationship between the implementation of the class size requirements and state aid dollars per simulated classrooms, the $p>.05$ level of statistical significance was employed. Research question one was answered based on the direction of the relationship or if there was a significant, positive relationship, then no evidence of inadequate state dollars existed. However, if there was a significant, negative relationship, then progression of the class size requirements through the years of implementation associated with fewer state aid dollars per simulated classroom, evidence of inadequate state dollars existed.

Another issue in the implementation of the class size requirements mandated by House Bill 1017 was the equity issue. To address the issue and to determine if the progression of monies through the years of implementation of House Bill 1017 differentially affected the districts according to local wealth, the

statistical procedure, multiple regression, was applied to the relationship between two independent variables on a dependent variable (Moore & McCabe, 1989). Stepwise regression was not utilized because two different research questions were stated with variables added to the questions. The variables were as follows:

x1= A continuous independent variable representing the years of implementation of the class size requirement of House Bill 1017 (FY 91-95).

x2 = A continuous independent variable representing per pupil assessed valuation for each district.

y = A continuous dependent variable representing state aid per simulated classroom for each district for the years of implementation of House Bill 1017.

The nature of the second research question depended on the outcome of the analysis of the first research question. To assist the reader, the following scenarios were provided to clarify outcomes from the first question coupled with a dichotomy of outcomes from question two results in four possible results from the combination of the two questions. The following is a discussion of the four possible scenarios that may result.

For the first scenario and repeating research question one, "Is there evidence that inadequate state general aid funding was provided to assist local school districts in meeting an increasingly restrictive array of elementary class

size requirements during the years of implementation of House Bill 1017 (FY 91-95)?", if the answer to this research question was "yes" at the level of significance previously stated, the state as a whole was not providing adequate monies entitled in House Bill 1017. For research question two, "Did the increasingly restrictive elementary class size requirements and concomitant state aid result in decreased equity of the distribution of state aid based on local district wealth, during the years of implementation of House Bill 1017 (FY 91-95)?," if there was evidence of inadequacy and the answer to this research question was that there was no evidence of decreased equity, then less wealthy districts were not treated less equitably on a simulated per class basis over time.

For the second scenario, if the answer to research question one was "yes", there was evidence of inadequate funding to meet the increasingly restrictive mandate. Further, if the answer to research question two was "yes", then the fiscal burden associated with the increasingly restrictive class size requirements most heavily impacted poorer districts.

For the third scenario, if the answer to research question one was "no", there was no evidence of inadequacy, the need to look at equity in the less wealthy districts would still have been legitimate. If there was evidence of decreased equity as posed by research question two, the poorer districts were affected over time.

In the fourth scenario, if the answer to research question one was "no", there was no evidence of inadequacy. And, if the answer to research question

two was "no" that there was no evidence of decreased equity, then the less wealthy districts were not treated less equitably on a simulated per class basis over time.

Summary

The four sections in Chapter III included an overview of the statement of the problem; a detailed description of the Oklahoma school funding formula; the procedures utilized to answer the questions in this study; and, this summary of the chapter. The following chapter will be a detailed analysis of the data.

CHAPTER IV

Analysis of Data

The purpose of this study was to examine the adequacy and equity of state funding requirements embedded in statewide educational reforms defined in House Bill 1017, specifically elementary class size requirements. Data were gathered for this study from the Oklahoma State Department of Education.

Simulated data based on the requirements mandated by House Bill 1017 for grades kindergarten through sixth were utilized to answer the questions posed by this study. The average daily membership for each grade level by school district was utilized to determine the minimum number of classes needed to meet House Bill 1017 requirements from FY 91-95.

State aid per simulated classroom was determined by dividing the district's K-12 ADM for the years of implementation by the district's K-6 ADM to arrive at the percentage of total ADM. The K-6 ADM percentage of total K-12 ADM was then multiplied times the aggregate state aid by district to arrive at the amount of state aid for grades K-6 in each district. State aid for grades K-6 was then divided by the minimum number of classes required to arrive at the state aid dollars per simulated classroom.

Two research questions were posed in this study to determine the relationships, if any, between the state aid per simulated classroom based on elementary class size requirements during the years of implementation and the

affect, if any, on less wealthy school districts during the years of implementation, FY 91-95. Simple regression and multiple regression were the statistical procedures utilized and tested at the $p>.05$ level of significance.

To establish the context for the analysis of data, the following sections are organized beginning with Tables 5-9 followed by a discussion of the descriptive data for the state aid formula. This discussion is followed by statewide simulations for each year of implementation of House Bill 1017. Next, the first research question and simple regression data analysis are described. And last, the second research question and multiple regression results are described.

Tables 5-9 present descriptive data for the state aid formula FY 91-95 as described in Chapter III. The data includes the number of districts, mean, standard deviation, minimum, maximum and sum for each of the following categories:

1. Foundation Aid Weighted Average Daily Membership (WADM) - The average daily membership of the highest past two years, weighted by pupil categories, excludes teacher index component.
2. District Valuation - The net assessed valuation of the district for the prior year.
3. District Valuation per Weighted Average Daily Membership (WADM) - The net assessed valuation of the district for the prior year divided by the WADM.

4. Total Chargeable Income - Local and state dedicated income subtracted from the amount earned by the district in the foundation component of the formula.
5. Net State Foundation Program - The amount of foundation aid after chargeable income is subtracted.
6. Total Foundation Aid - Local contribution (total chargeable income) plus net state foundation aid, excluding state transportation supplement.
7. Total Foundation Aid Program Dollars per Weighted Average Daily Membership (WADM) - Local contribution (total chargeable income) plus net state foundation aid, excluding state transportation supplement divided by foundation weighted average daily membership.
8. Total State Transportation Supplement - The amount of transportation monies earned on the basis of average daily haul times a factor based on the number of miles driven and the area served in a district.
9. Salary Incentive Aid Weighted Average Daily Membership (WADM) - The average daily membership of the highest past two years, weighted by pupil categories, includes teacher index component.

10. Salary Incentive Program Local Contribution - The formula requires the local district to vote mills above the 15 mills to participate in this component of the formula.
11. State Salary Incentive Aid - The amount earned by the district from the state on the basis of the contribution of the 20 mills voted by the district.
12. Total Salary Incentive Aid - Salary incentive program local contribution plus the state salary incentive aid.
13. Salary Incentive Aid Dollars per Weighted Average Daily Membership (WADM) - Salary incentive program local contribution plus the state salary incentive aid divided by salary incentive aid weighted average daily membership.

These data are presented as a context for the study. Inferences cannot be drawn from these data for the study, but they do provide clarification of statewide data for the state aid formula.

Data represented various years for ADM, valuation, and chargeable income. The state aid formula was a compilation of data from various years which depended on its use in the formula based on the characteristics of the district not current, actual fiscal year data. An example was the weighted average daily membership which for these years the highest of the past two years for the district was selected to be used in the state aid formula.

Trends in this data reflected increased weighted average daily membership and increased state aid monies as elementary class sizes became more restrictive during FY 91-95. The minimums and maximums in the various categories represent the wide range of district data.

While Tables 5-9 represent state aid data, Table 10 presents descriptive data based on the class size simulations for the state for FY 91-95. The data includes the mean, standard deviation, lowest and highest districts and the number of districts in each year for the following categories:

1. District Valuation per Pupil
2. State Aid per Simulated Class

These data also support the content for the study. An important trend in this data reflects the average state aid per simulated class increases each year. The standard deviation and the mean are very close for each year based on the valuation per pupil category which represents a wide disparity or range.

The data also reflects continued growth in the average or mean per simulated class. The standard deviation also represents a consistent spread in the data. Additionally, the minimums and maximums reflect huge disparities in per pupil valuation. The state aid formula is equity - based and takes these disparities into consideration. This is evidenced by the results of the study and the answer to research question two. Equity is not decreased over the years of the study on the basis of state aid per simulated class.

Table 5

State Aid Formula Descriptive Data for 1991*

1991 N = 593	Foundation Aid WADM**	District Valuation	District Valuation per WADM	Total Chargeable Income	Net State Foundation Aid	Total Foundation Program	Total Foundation Program Dollars per WADM
Mean	1,372.61	$17,872,419	$13,123	$651,261	$724,147	$1,375,408	$1,009
Standard deviation	4,056.83	$75,309,790	$11,401	$2,277,538	$1,859,472	4,056,335	$74
Minimum	41.90	$296,464	$874	$14,238	$0	$49,630	$1,000
Maximum	57,962.81	$1,265,963,519	$126,005	$35,846,995	$22,526,840	$57,962,810	$2,261
Sum	813,958.64	$10,598,344,522	----------	$386,197,577	$429,419,249	$815,616,826	----------

	Total State Transportation Supplement	Salary Incentive Aid WADM	Salary Incentive Program Local Contribution	State Salary Incentive Aid	Total Salary Incentive Program	Salary Incentive Program Dollars per WADM
Mean	$36,202	1,392.02	$357,448	$971,846	$1,329,294	$962
Standard deviation	$53,035	4,157.72	$1,506,196	$2,543,024	$3,965,374	$85
Minimum	$0	41.9	$5,929	$0	$47,337	$954
Maximum	$648,694	61,092.52	$25,319,270	$32,950,775	$58,270,045	$2,520
Sum	$21,467,610	825,466	$211,966,890	$576,304,488	$788,271,378	----------

Note: * Data represents state aid formula data which does not correspond to current year actual ADM, valuation, & chargeable income.
** WADM - Weighted average daily membership

Table 6

State Aid Formula Descriptive Data for 1992*

1992 N = 578	Foundation Aid WADM**	District Valuation	District Valuation per WADM	Total Chargeable Income	Net State Foundation Aid	Total Foundation Program	Total Foundation Program Dollars per WADM
Mean	1,414.33	$18,074,288	$13,008	$679,979	$827,166	$1,507,145	$1,072
Standard deviation	4,412.96	$73,502,141	$11,440	$2,289,187	$2,187,552	$4,407,669	$70
Minimum	45.35	$302,766	$959	$14,637	$0	$52,922	$1,064
Maximum	58,450.75	$1,238,958,254	$122,253	$35,664,750	$26,927,785	$62,191,598	$2,093
Sum	817,481.05	$10,446,938,750	----------	$393,028,083	$478,101,779	$871,129,862	----------

	Total State Transportation Supplement	Salary Incentive Aid WADM	Salary Incentive Program Local Contribution	State Salary Incentive Aid	Total Salary Incentive Program	Salary Incentive Program Dollars per WADM
Mean	$37,299	1,432.23	$361,486	$1,103,160	$1,464,646	$1,029
Standard deviation	$56,177	4,208.45	$1,470,043	$2,911,211	$4,299,095	$83
Minimum	$0	47.28	$6,055	$0	$53,164	$1,022
Maximum	$683,142	60,401.78	$24,779,165	$36,927,293	$61,706,458	$2,445
Sum	$21,558,748	827,829.94	$208,938,775	$637,626,335	$846,565,110	----------

Note: * Data represents state aid formula data which does not correspond to current year actual ADM, valuation, & chargeable income.
** WADM - Weighted average daily membership

Table 7

State Aid Formula Descriptive Data for 1993*

1993 N = 570	Foundation Aid WADM*	District Valuation	District Valuation per WADM	Total Chargeable Income	Net State Foundation Aid	Total Foundation Program	Total Foundation Program Dollars per WADM
Mean	1,460.92	$18,334,313	$12,753	$702,388	$903,753	$1,606,141	$1,105
Standard deviation	4,249.50	$73,580,122	$11,087	$2,316,052	$2,419,449	$4,665,545	$65
Minimum	46.35	$292,969	$863	$15,855	$0	$53,022	$1,098
Maximum	59,054.29	$1,253,580,814	$106,026	$36,058,550	$29,777,624	$64,841,610	$2,022
Sum	832,726.72	$10,450,558,401	----------	$400,361,333	$515,139,092	$915,500,425	----------

	Total State Transportation Supplement	Salary Incentive Aid WADM	Salary Incentive Program Local Contribution	State Salary Incentive Aid	Total Salary Incentive Program	Salary Incentive Program Dollars per WADM
Mean	$38,211	1,478.31	$366,686	$1,205,756	$1,572,442	$1,070
Standard deviation	$56,863	4,301.16	$1,471,602	$3,186,339	$4,571,010	$67
Minimum	$0	48.35	$5,859	$0	$51,812	$1,063
Maximum	$666,583	60,642.67	$25,071,616	$40,095,907	$64,451,029	$2,121
Sum	$21,780,544	842,637.28	$209,011,168	$687,280,801	$896,291,969	----------

Note: * Data represents state aid formula data which does not correspond to current year actual ADM, valuation, & chargeable income.
** WADM - Weighted average daily membership

Table 8

State Aid Formula Descriptive Data for 1994*

1994 N = 555	Foundation Aid WADM**	District Valuation	District Valuation per WADM	Total Chargeable Income	Net State Foundation Aid	Total Foundation Program	Total Foundation Program Dollars per WADM
Mean	1,528.88	$18,838,698	$12,412	$745,466	$997,342	$1,742,808	$1,145
Standard deviation	4,361.67	$72,499,851	$11,125	$2,402,717	$2,633,897	$4,967,636	$62
Minimum	48.63	$314,242	$871	$16,657	$0	$55,389	$1,139
Maximum	59,229.14	$1,184,056,177	$111,811	$36,547,560	$32,493,992	$67,461,990	$2,076
Sum	848,526.68	$10,455,477,222	----------	$413,733,471	$553,524,822	$967,258,293	----------

	Total State Transportation Supplement	Salary Incentive Aid WADM	Salary Incentive Program Local Contribution	State Salary Incentive Aid	Total Salary Incentive Program	Salary Incentive Program Dollars per WADM
Mean	$39,276	1,545.62	$376,774	$1,328,602	$1,705,376	$1,109
Standard deviation	$55,082	4,400.30	$1,449,997	$3,478,736	$4,850,597	$77
Minimum	$0	50.73	$6,285	$0	$60,662	$1,102
Maximum	$526,955	60,288.82	$23,681,124	$43,573,339	$66,462,396	$2,236
Sum	$21,798,100	857,818.75	$209,109,544	$737,374,293	$946,483,837	----------

Note: * Data represents state aid formula data which does not correspond to current year actual ADM, valuation, & chargeable income.
** WADM - Weighted average daily membership

Table 9

State Aid Formula Descriptive Data for 1995*

1995 N = 551	Foundation Aid WADM**	District Valuation	District Valuation per WADM	Total Chargeable Income	Net State Foundation Aid	Total Foundation Program	Total Foundation Program Dollars per WADM
Mean	1,567.21	$19,329,894	$12,223	$760,303	$1,042,804	$1,803,107	$1,157
Standard deviation	4,465.29	$73,891,367	$10,614	$2,413,354	$2,775,877	$5,130,093	$78
Minimum	49.58	$343,286	$1,069	$14,753	$0	$60,179	$1,149
Maximum	60,510.71	$1,207,367,121	$133,148	$36,429,262	$35,234,901	$69,526,806	$2,425
Sum	863,529.67	$10,650,771,807	----------	$418,926,957	$574,584,881	$993,511,838	----------

	Total State Transportation Supplement	Salary Incentive Aid WADM	Salary Incentive Program Local Contribution	State Salary Incentive Aid	Total Salary Incentive Program	Salary Incentive Program Dollars per WADM
Mean	$39,596	1,583.86	$386,598	$1,388,655	$1,775,252	$1,125
Standard deviation	$53,697	4,495.70	$1,477,827	$3,633,543	$5,035,882	$74
Minimum	$0	49.58	$6,866	$0	$68,663	$1,120
Maximum	$475,810	61,278.93	$24,147,342	$46,393,725	$68,644,657	$2,663
Sum	$21,817,522	872,705.78	$213,015,436	$765,148,674	$978,164,110	----------

Note: * Data represents state aid formula data which does not correspond to current year actual ADM, valuation, & chargeable income.
** WADM - Weighted average daily membership

The number of districts between Tables 5-9 and the remaining tables is different as a result of incomplete class size data for a number of districts, even though the state aid data was available.

The first research question asked was:

Is there evidence that inadequate state general aid funding was provided to assist local school districts in meeting an increasingly restrictive array of elementary class size requirements during the years of implementation of House Bill 1017 (FY 91-95)? To examine the relationship between the years of implementation of the class size requirements and state aid dollars per simulated classroom, simple regression was utilized. The $p>.05$ level of statistical significance was employed. The variables were as follows:

x = A continuous independent variable representing the years of implementation of the class size requirements of House Bill 1017 (FY 91-95).

y = A continuous dependent variable representing the state aid per simulated classroom for each district for the years of implementation of House Bill 1017.

Table 11 includes the results of the simple regression analysis which indicates a significant, positive relationship at the .05 level of significance ($p= <.0001$) during FY 91-95 the years of implementation of House Bill 1017. Therefore, the answer to research question one was that there was a significant, positive relationship between the years of implementation and state aid per simulated classroom. In other words, there was no evidence of inadequacy in

Table 10
Statewide Descriptive Data for District Valuation per Pupil and State Aid Per Simulated Class

1991	District Valuation per Pupil	State Aid per Simulated Class
Mean	$12,788.02	$25,178.58
Standard Dev	$11,122.29	$7,362.17
Minimum	$873.60	$1,296.84
Maximum	$126,004.65	$47,506.13
N	566	566
1992		
Mean	$12,621.17	$27,512.66
Standard Dev	$11,189.22	$7,782.65
Minimum	$958.76	$604.80
Maximum	$122,252.61	$46,077.64
N	554	554
1993		
Mean	$12,361.63	$28,748.53
Standard Dev	$10,662.70	$7,576.25
Minimum	$863.20	$1,040.79
Maximum	$106,026.06	$45,455.42
N	549	549
1994		
Mean	$12,242.53	$28,838.23
Standard Dev	$10,659.23	$7,172.78
Minimum	$870.55	$895.71
Maximum	$111,811.03	$44,343.94
N	550	550
1995		
Mean	$12,200.08	$29,500.71
Standard Dev	$10,622.91	$7,395.61
Minimum	$1,068.96	$626.76
Maximum	$133,147.74	$44,281.49
N	549	549

state funding as elementary class sizes became more restrictive over the years of implementation. In fact, with each year of implementation, there was an associated increase of $1,001.22 per simulated class.

As discussed in Chapter III for research question one, every unit increase in the independent variable (from year to year of implementation), was associated with an increase in the dependent variable (state aid per simulated elementary classroom). State aid was adequate as elementary class sizes became more restrictive.

Table 11
Results of Simple Aggression Analysis

Regression Statistics

Multiple R	0.18649667
R Square	0.03478101
Adjusted R Squ	0.03443205
Standard Error	7480.32131
Observations	2768

ANOVA

	Df	SS	MS	F	Significance F
Regression	1	5577107181	5577107181	99.670924	<.0001*
Residual	2766	1.5477E+11	55955207		
Total	2767	1.6035E+11			

Year Regressed on State Aid per Simulated Class

	Coefficients	Standard Error	t Stat	P-value
Intercept	24948.2795	331.521991	75.2537695	0
Year	1001.2241	100.287557	9.98353264	<.0001*

*Statistically significant at the .05 level.

The second research question asked was:

Did the increasingly restrictive elementary class size requirements and concomitant state aid result in decreased equity of the distribution of state aid based on local district wealth, during the years of implementation of House Bill 1017 (FY 91-95)?

Table 12 presents state aid per simulated class organized by quintiles of districts which range from the lowest to highest in per pupil valuation. The data indicates that for those districts with the lowest per pupil valuation the state aid per simulated class was the highest. State Aid per simulated classroom declined as the per pupil valuation increased. In other words, the less wealthy school districts received more state aid per simulated class than the wealthier school districts. For each quintile, there is generally an increase in state aid per simulated class during the years of implementation which supports question one.

To examine the relationship between the years of implementation and per pupil assessed valuation per district on the variable representing state aid per simulated classroom, multiple regression was utilized. The $p>.05$ level of significance was employed. The variables were as follows:

x1 = A continuous independent variable representing the years of implementation of the class size requirements of House Bill 1017 (FY 91-95).

x2 = A continuous independent variable representing per pupil assessed valuation for each district.

y = A continuous dependent variable representing the state aid per simulated elementary classroom for each district for the years of implementation of House Bill 1017.

Table 12

1991-95 State Aid per Simulated Class by Quintile Sorted from Lowest to Highest District per Pupil Valuation

Quintiles	1 Lowest 20% per pupil assessed valuation	2 2nd 20%	3 Middle 20%	4 4th 20%	5 Highest 20%
1991					
St aid/class mean	$31,710.02	$29,310.54	$27,464.51	$22,980.69	$14,406.93
n	113	113	114	113	113
1992					
St aid/class mean	$34,039.45	$31,768.31	$29,782.69	$25,670.48	$16,200.49
n	111	111	111	111	110
1993					
St aid/class mean	$34,656.26	$32,985.40	$31,066.96	$27,180.59	$17,753.50
n	110	110	110	110	109
1994					
St. aid/class mean	$34,497.38	$32,673.72	$30,989.59	$27,729.41	$18,301.06
n	110	110	110	110	109
1995					
St. aid/class mean	$35,425.08	$33,334.67	$32,077.69	$27,672.64	$18,897.08
n	110	110	110	110	109

Table 13 presents the results of the multiple regression techniques which indicate a significant, negative, relationship at the .05 level of significance ($p=<.0001$). Therefore, the answer to research question two was that poor, less

wealthy school districts were not systematically constrained by the restrictive elementary classroom sizes over the years of implementation of House Bill 1017.

Table 13

Results of Multiple Regression Analysis

Regression Statistics

Multiple R	0.79149993
R Square	0.62647214
Adjusted R Squ	0.62620196
Standard Error	4654.22468
Observations	2768

ANOVA

	Df	SS	MS	F	Significance F
Regression	2	1.0045E+11	5.0227E+10	2318.69646	<.0001*
Residual	2765	5.9895E+10	21661807.4		
Total	2767	1.6035E+11			

Per-pupil Valuation Regressed on State Aid per Simulated Class Controlling for Year

	Coefficients	Standard Error	t Stat	P-value
Intercept	31916.5761	231.590712	137.814577	
Year	917.188936	62.4114176	14.6958517	<.0001*
Per-Pup Val	-0.53976006	0.00815581	-66.1810414	<.0001*

*Statistically significant at the .05 level.

As stated in Chapter III, four possible scenarios were posed as possible outcomes of the study. To briefly summarize the scenarios, scenario one was that if the answer to question one was yes, there was inadequate state aid and if the answer to question two was "no", that there was no evidence of decreased equity, then the less wealthy districts were not treated less equitably on a simulated per class basis over time; or, scenario two, if the answer to question

one was "yes", there was inadequate state aid and if the answer to question two was "yes", the less wealthy districts were treated less equitably over time; or, scenario three, if the answer to question one was "no", there was adequate state aid and if the answer to question two was "yes", then the less wealthy districts were treated less equitably over time; and last, scenario four, if the answer to question one was "no", there was adequate state aid and if the answer to question two was "no", the less wealthy districts were not treated less equitably over time, equity did exist.

The results of the multiple regression statistical procedure indicated that the years of implementation (x1) coupled with the per pupil assessed valuation (x2) correlated at the 79% level with the state aid per simulated elementary classroom. Holding the overall class size changes constant, with every dollar decrease in district assessed valuation per WADM, there was an associated increase of .54 cents state aid per simulated classroom. These results indicate that the formula became more equitable in the face of increasingly restrictive statewide class size requirements. This indicates that as elementary class sizes became more restrictive, state aid per simulated classroom increased more acutely for the less wealthy districts.

Summary of the Results

Question one of the present study, is there evidence that inadequate state general aid funding was provided to assist local school districts in meeting an increasingly restrictive array of elementary class size requirements, was

answered negatively. The regression procedure indicated that there was a significant, positive relationship during the years of implementation and the state aid per simulated classroom. In other words, there was no evidence of inadequacy in state aid per simulated elementary classroom over the years of implementation to meet the restrictive class size requirements each year.

Question two of the present study, did the increasingly restrictive elementary class size requirements and concomitant state aid result in decreased equity of the distribution of state aid based on local district wealth, during the years of implementation of House Bill 1017 (FY 91-95), was answered negatively. The multiple regression procedure found that there was a significant, negative relationship between local wealth per pupil and state aid per simulated classroom. In other words, state aid per simulated elementary classroom was equitable for the less wealthy districts over the years of implementation of House Bill 1017.

To revisit the scenarios identified in Chapter III, the research supported the responses which were addressed in the fourth scenario. This scenario stated that if the answer to research question one was "no", there was no evidence of inadequacy. And, if the answer to research question two was "no" that there was no evidence of decreased equity then less wealthy districts were not treated less equitably on a simulated per class basis over time.

Summary

This chapter described the data collected for the study and the statistical procedures used to answer the questions posed by the study. Each statistical procedure was described in detail accompanied by tables showing data distribution for simulated state aid per elementary classroom, and per pupil assessed valuation over the years of implementation. The chapter concluded with a summary of the results of the study.

Chapter V

Findings, Conclusions, Implications, and Recommendations

This chapter reviews the purpose of the study, the research questions addressed, and the procedures used to conduct the research. Next, the major findings, conclusions, and contributions are presented. Finally, the implications and recommendations are made based on the results of the study.

Review of the Study

Purpose

The purpose of the study was to examine the adequacy and equity of funding the elementary class size requirements of House Bill 1017 during the years of implementation (FY 91-95). Two questions guided this study:

Question One: Is there evidence that inadequate state general aid funding was provided to assist local school districts in meeting an increasingly restrictive array of elementary class size requirements during the years of implementation of House Bill 1017 (FY 91-95)?

Question Two: Did the increasingly restrictive elementary class size requirements and concomitant state aid result in decreased equity of the distribution of state aid based on local district wealth during the years of implementation of House Bill 1017 (FY 91-95)?

Procedure

The population for this study was comprised of Oklahoma school districts receiving state general aid funding during the years of implementation of House Bill 1017 (FY 91-95). Data obtained from the State Department of Education included state general aid funding, average daily membership by district, and the net assessed valuation by district. Elementary class size data and state general aid funding per class were simulated for grades kindergarten through sixth for FY 91-95, the years of implementation of House Bill 1017. The procedures for the simulation of the data are summarized as follows.

The average daily membership for each school district in the state was grouped by grade levels kindergarten, grades one through three, and grades four through six then grouped by years of implementation. For each fiscal year included in the study, the average daily membership was divided by the class size requirement for the grade level as per House Bill 1017 to determine the minimum number of classes needed to meet the class size requirements. The total number of classes for kindergarten through sixth grades was determined by year for each district.

The state aid per simulated classroom was determined by taking the district's K-12 ADM for each year of implementation divided by the district's K-6 ADM to arrive at the percentage of total ADM. The K-6 ADM percentage of total K-12 ADM by district, by year, was then multiplied times the aggregated state aid by district to arrive at an amount of state aid for grades K-6 in each district.

State aid for grades K-6 was divided by the minimum number of classes required to arrive at the state aid dollars per simulated class for all elementary grades.

Analyses of data in this study were accomplished through the use of quantitative analysis. The quantitative use of descriptive statistics provided measures of central tendency for state aid formula components, the valuation per pupil, and state general aid funding per class for FY 91-95. Simple and multiple regression analyses assessed the relationship to determine the evidence of inadequacy of state aid funding per simulated elementary classroom over the years of implementation of House Bill 1017 and to assess the relationship to determine the effects on distributional equity.

Major Findings

The primary focus of the study was to examine the adequacy and equity of funding the elementary class size requirements mandated by House Bill 1017. The major findings of the two research questions were as follows:

1. This study found that there was no evidence of inadequate state general aid funding for the elementary class size requirements as they became more restrictive during the years of implementation of House Bill 1017.
2. This study also found that the equity of the distribution of state aid increased in the face of increasingly restrictive elementary class size requirements.

Conclusions

The conclusions below evolved from the findings presented in the previous section. The conclusions are as follows:

1. Over the years of implementation (FY 91-95), as elementary class sizes became more restrictive, state general aid increased on a per simulated class basis for grades kindergarten through six. State appropriations provided adequate financial assistance to Oklahoma school districts through the state aid formula during FY 91-95 to meet the elementary class sizes requirements as the number of students per class decreased through the years of implementation.
2. No evidence that increasingly restrictive class size requirements adversely affected poor districts in terms of state general aid distributions. In fact, evidence of more favorable aid provisions from the state to less wealthy districts was found.
3. State appropriations adequately funded the increasingly restrictive class size requirements.
4. With each year of implementation, there was an associated increase of over $1,000 per simulated class.
5. In the face of increasingly restrictive class size requirements, the distribution of state general aid per simulated classroom became more equitable in terms of local district assessed valuation on a per pupil basis.

6. The state aid formula distributed monies equitably through the formula components to school districts with low, property valuation.

Contributions of the Findings to the Literature on Adequacy and Equity

This section will address how the findings added to the current body of literature on adequacy and equity as reported in Chapter II. The concept of adequacy has been emerging throughout the scholarly literature as well as through result of court litigation focusing on the equal protection clauses and right to education clauses in state constitutions across the nation. The major court cases which have been described in Chapter II provide greater detail, but in summary, reflect that what was a debate on equity of resources has now focused on the adequacy of those resources. This study has made a contribution to the concept of adequacy in the literature, suggesting an alternative view of fiscal adequacy. Additionally, the present study contributed to the vast literature of fiscal equity examining the equity in the distribution state aid in the context of statewide educational mandates.

Implications

This section will address the implications of the study and recommendations for further research. The purpose of the study was to examine the adequacy and equity of funding the elementary class size requirements of House Bill 1017. Specifically, the study sought to determine evidence of inadequacy in state general aid funding and to determine if state aid

funding was affected when considering the property wealth of the school districts in Oklahoma.

The findings and conclusions lead to some possible implications as follows:

1. The state aid formula distributes monies equitably; however, after the major funding provisions the adequacy of funding could be a concern.
2. Additional state appropriations to support the adequacy and equity findings for other mandates were not examined.
3. The maintenance of state appropriations to support the mandates after the years of implementation was not examined.
4. The findings do not speak to the effect of the elementary class size mandates on the other operations of the district, e.g., facilities, increased staff and salaries, bond elections to support the facility concerns, and the growth or lack of growth in the student population.

Recommendations

The recommendations in this section of the study are based on the findings and conclusions of the study. Other recommendations may result after further study of these recommendations. This study suggests the following recommendations for further research:

1. This study focused on evidence of inadequacy of state general aid funding on the basis of simulated elementary classes. There was no evidence of inadequacy in funding the elementary class size requirements during FY

91-95. Research should be conducted on the secondary class sizes during FY 91-95 to determine if evidence of inadequacy exists for these class size requirements.

2. Additionally, for both the elementary and secondary class size requirements, research should be conducted for those years after FY 95 to determine if evidence of inadequacy exists after funding increases have slowed.

3. This study found that the state aid formula treated poor, less wealthy districts equitably during FY 91-95, in other words, state aid per simulated classroom increased to these school districts as their property valuation decreased. Research should be conducted to determine if the state aid formula is treating the poor, less wealthy districts equitably after funding increases have slowed.

4. The effect of class size restrictions during and after the years of implementation could lead to further research on the following:

   a. The effect of the smaller class sizes on school district facilities.

   b. The impact on the available number of teacher and assistants needed to meet the smaller classes.

   c. The costs to the district to implement these restrictions as the state mandated teacher salary schedule increased at the same time as the class sizes became more restrictive.

d. The effect of other mandates, as reflected in Chapter I of the current study, on the adequacy and equity of state general aid funding.

5. This study focused on the state as a whole. Research should be conducted on the basis of the size; geographic location, e.g., rural, urban or suburban setting; or, more specifically, selected school sites.

6. Simulated data was used in this study. Research on actual data could be conducted on actual school site data during or after the years of implementation.

7. State aid formula components were described as they existed during the years of implementation. Research could be conducted to determine if the revised formula has affected the adequate and equitable treatment of school districts with this or other state mandates as per House Bill 1017.

8. This study was based on educational reforms, specifically class size requirements mandated in Oklahoma's House Bill 1017. Research should be conducted with other states for comparisons of adequacy and equity concerns for similar state mandates.

9. The study was quantitative in nature. However, qualitative research could be conducted to study the perceptions of adequate and equitable funding by various education, legislative, and community groups during the years of implementation and even after the years of major funding for House Bill 1017.

10. The focus of this study did not include the financial stability of the school districts during the implementation of these requirements. Research could be conducted to examine the effect of these mandates, if any, on the financial stability of districts during the years of implementation which would include fund balance status, annexations, consolidations, and/or penalties paid and the reasons for not meeting the requirements.

Summary

This chapter presented a review of the purpose of the study, the research questions addressed, and the procedures used to conduct the research. Briefly, the purpose of the study was to examine the adequacy and equity of funding elementary class size requirements of House Bill 1017 during the years of implementation (FY 91-95).

Two questions were asked. Question one sought to determine evidence of inadequacy in state general aid funding. The major finding was that there was no evidence of inadequacy of state general aid funding during the years of implementation of House Bill 1017.

Question two sought to determine if equity was decreased in the distribution of state general aid based on local wealth as elementary class sizes became more restrictive during the years of implementation of House Bill 1017. The major finding was that equity increased in the face of increasingly restrictive elementary class size requirements.

The conclusions were that state appropriations provided adequate financial assistance to Oklahoma school districts during FY 91-95 to meet the elementary class size requirements. Less wealthy school districts were not treated adversely in terms of state general aid distributions.

Next, implications of the study were that equity and adequacy within state general aid funding could be affected following the years of implementation as funding concluded for major reform components. Additionally, the effect of the restrictive elementary class sizes on other operations of the district should be considered.

And last, the recommendations suggested further research of the effect of secondary class size restrictions; the need to examine adequacy and equity components of the state general aid funding after the years of implementation; the cost to the district for staff to implement these requirements; and, the effect of class size reductions during and after the years of implementation on school district facilities, staff, and finances as a whole. These recommendations also included suggestions for research on the basis of school district geographic location and size, and even school sites within school districts.

The reader must note that the major findings of the study were confined to a specific reform mandate, elementary class size restrictions. The adequacy and equity findings resulted from narrowly defined questions which isolated a specific reform component. House Bill 1017 included several major reform

components which were projected to cost the state millions of dollars during the years of implementation.

Caution should be exercised when considering the findings of this study as inclusive of all reform mandates for adequacy and equity concerns. As suggested in the recommendations, future research on House Bill 1017 could be more broad in scope, encompassing various aspects of the legislation which could result in different findings for adequacy and equity concerns.

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