ABSTRACT OF APPLIED PROJECT

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Graduate School
Morehead State University
1996
SCHOOL DISTRICTS’ INSTRUCTIONAL PER-PUPIL EXPENDITURE
DURING THE INITIAL YEARS OF THE
KENTUCKY EDUCATION REFORM ACT

ABSTRACT OF APPLIED PROJECT

An applied project submitted in partial fulfillment of the requirements for the degree of Specialist in Education at Morehead State University

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1996
School Districts’ Instructional Per-pupil Expenditures

During the Initial Years of the Kentucky Education Reform Act

The purpose of this exploratory study was to examine the instructional per-pupil expenditure (PPE) of Kentucky’s public school districts during the initial years of the Kentucky Education Reform Act (KERA).

The population for this study consisted of all school districts in the state. The underlying question for this study: Has there been a significant change in per-pupil instructional expenditures during the initial years of KERA? Three research questions were investigated: (1) What was the average instructional per-pupil expenditure in Kentucky in 1989-90, 1991-92, and 1993-94?, (2) How had the ranking of districts with regard to instructional per-pupil expenditure changed from per-KERA (1989-90) standings to the 1993-94 school year standings?, and (3) Was there a significant difference between the amount of monies spent on instructional related activities before and after the enactment of KERA? Six hypotheses were used to examine the last two research questions.

Descriptive statistics were computed to answer the first research question. The mean instructional PPE increased from 1989-90 to 1993-94. In addition, the disparity in the PPE distribution also increased over the three years examined. This indicated that rather than closing the gap between districts, KERA may have had the effect of widening inequality between districts.
A Spearman correlation coefficient was computed to test the hypotheses related to the ranking of districts for the three years investigated. The results indicated that the rank held by districts did not significantly change among the possible pairings of years examined in the study.

An independent t-test was employed to test the significance of the hypotheses related to the third research question. The three hypotheses were all rejected at the .05 level of significance. The findings indicated that districts across the state were spending significantly more money on instruction in 1993-94 than they were in 1991-92, and more money was spent in 1991-92 than in the per-KERA year of 1989-90. These findings were important because they support the belief that KERA has increased the amount of money flowing to districts.

The findings of this study indicated that although there appeared to be support that increases have occurred in the amount of money spent on instruction, there also was support that the inequities that existed prior to KERA may still exist. Additional studies are needed to further investigate the funding of education in Kentucky and to investigate the possible relationship between funding and academic performance.

Accepted by:

[Signatures]

Chair
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CHAPTER I

INTRODUCTION

Many educational leaders are now facing changes brought about by the recent wave of education reform sweeping this nation. Cries for improvement in the educational system have produced changes in the areas of curriculum, governance, and finance. A common argument for reform, and just as common a component of reform movements, is that of funding education. Advocates of reform movements associate improvement in education with improvements in financing education (Perkins, 1992). Thus, one way to address the needs of a better educational system is through changing the way education is allocated money.

Since the decision handed down by the Supreme Court of California in *Serrano v. Priest* (1970), approximately 15 states have re-examined their method of funding education. Following California, states such as Minnesota, New Jersey, Texas, Idaho, and Colorado have been ordered by their court systems to investigate the formula used to fund public education and to develop methods to insure the equitable funding of schools. None, however, have had the impact of the court-ordered, complete revamping by the Kentucky General Assembly of the laws relating to education (Steffy, 1993).

The current reform movement in Kentucky began when the Kentucky Supreme Court ruled that the state educational system was unconstitutional. Based upon this ruling, the Court ordered the General Assembly to overhaul the educational
system. The passing and signing of House Bill 940 (H.B. 940), also known as the Kentucky Education Reform Act of 1990 (KERA), drew Kentucky into the spotlight and brought with it the challenges of changing the way school systems are administered. The General Assembly formed the Task Force on Education Reform and directed it to focus on three areas: curriculum, finance, and governance (Steffy, 1993).

The enactment of KERA brought a new method of allocating monies to fund public education. Under the new formula, districts across the state were appropriated monies based upon the prior year's average daily attendance (ADA). Using the prior year's ADA allowed the state to compute and inform districts of the expected revenue. Additional funds were provided for at-risk students and capital construction. Under KERA, the local districts were required to assess a minimum real property tax rate of 30 cents per $100 valuation which was deducted from the state's allotment.

With the increase in state funding came a cry from legislators for accountability. Districts received monies to fund technology, pre-school programs, extended school programs, gifted and talented, special education, home and hospital instruction, family resource and youth service centers, and instructional materials. These monies were tied to innovations designed to increase the availability of educational opportunities for students. In addition, KERA mandated that the performance of schools be measured by assessing students at specific grade levels.
The initial law suit in Kentucky filed by the Council for Better Schools was on the foundation that there existed inequities in the education process, specifically, the funding system for public education (Steffy, 1993). Because of an inadequate disbursement program, school districts from rural, non-industrialized areas of the state with low property valuation bases were not receiving the monies necessary to pay for the cost of an efficient education for students. Prior to KERA, allocation of funds to school districts was based upon the qualifications of the teachers, number of students per class, special needs students, and support services based upon student population. For those districts whose local resources could not financially compete in offering educational opportunities with districts possessing an adequate tax base, the minimum foundation and power equalization programs fell short in funding educational opportunities.

In interpreting Kentucky’s constitutional provision requiring “an efficient system of common school throughout the state,” the court stated that such a system would consist of several qualifications:

The system should make common schools free and available to all Kentucky children, should be substantially uniform throughout the state, should provide equal educational opportunities to all students regardless of those students’ economic circumstances or places of residence, and should receive sufficient
legislative funding to enable it to provide each Kentucky child an adequate education. (Jordan & Lyons, 1992, p. 78)

Steffy (1993) noted that the quality of the educational system is related to the future of the state. "For the state to improve economically, attract new business, and generally improve the quality of life of its citizens, education in this state had to improve" (p. 1).

The Kentucky General Assembly formed a task force on education reform that included prominent legislators and representatives of the governor’s office. The task force was further subdivided into curriculum, governance, and finance committees. One of the 13 principles that the curriculum subcommittee followed, under the guidance of David Hornbeck, dealt with the philosophy that “what children learn should be approximately the same across the state” (Steffy, 1993, p. 7). Regardless of where a child lived, the family status, the labeling of the child, the ethnic background, or the economic status, the child “has the right to an education that will enable him/her to achieve at relatively high levels” (Steffy, p. 7). The funding of education should provide equitable opportunities for the child regardless of his/her county of residence.

The first step to establish equitable funding began with the formation of the Council for Better Schools by a small group of school superintendents, and the filing
of the initial equity lawsuit. Steffy (1993) summarized the position of the Council when she wrote:

[The Council] argued that since the property values were low, they could not possibly generate the amount of money per pupil that the more property affluent districts could. Further, they argued that this discrepancy in the amount of money available per pupil was the reason for the discrepancy in the achievement of students. They [the districts] contended that with the same amount of money as the more academically achieving districts, they could produce the same results. (p. 8)

Since the signing of House Bill 940, the changes in the funding program have the intent to provide for state and local equity among districts (Steffy, 1993). The premise that inadequate funding has an effect upon student performance places the district into the position of “proving that money can help produce the results” (Steffy, p. 8). More money is flowing into districts from the state level while each district is simultaneously assessing a tax rate of at least 30 cents per $100. One of the conditions of the law suit brought to light by the Council for Better Schools is being answered. One question, however, is left unanswered: Does this change bring about a situation of equitable funding for Kentucky’s public schools? As Steffy states, “Time will tell” (p. 8).
Purpose of the Study

The purpose of this exploratory study was to examine per-pupil instructional expenditures for school districts in Kentucky. Change in the method of funding education is just one of KERA's many components. However, this change has an impact on every taxpayer and student in the state of Kentucky. This study was an initial investigation of the funding of Kentucky public schools.

This issue is of importance not only to school personnel but also to the citizens of Kentucky. For citizens, tax rates have increased; and for educators, monies are determined by a new formula. As a result, school districts are receiving substantially more money than they did prior to KERA. This result was the intended outcome because there was an assumption that an inequity existed in funding Kentucky's schools (Steffy, 1993).

This study attempted to investigate the changes that have occurred in instructional expenditures as a result of the enactment of the Kentucky Education Reform Act. This study provided a baseline investigation of per-pupil instructional expenditures for future studies. Because KERA is a reform movement that is under the watch of educators nationwide, this study has contributed to the pool of knowledge about this reform movement.
Background to the Study

In a decision for the plaintiffs, the Kentucky Supreme Court in *Rose v. Council for Better Education, Inc.* (1989) declared the entire educational system in Kentucky unconstitutional. In its decision, the Supreme Court interpreted the state constitutional provision as one of:

requiring 'an efficient system of common schools throughout the state' as one that possessed several characteristics: the system should make common schools free and available for all Kentucky children, should be substantially uniform throughout the state, should provide equal educational opportunities to all students regardless of those students' economic circumstances or place of residence, and should receive sufficient legislative funding to enable it to provide each Kentucky child an adequate education (Jordan & Lyons, 1992, p. 78).

Before KERA, the public funding of school districts in Kentucky was based on such factors as the qualifications of teachers, the calculated number of classrooms based upon classroom capacity size, extra service personnel, distance and type of terrain between schools, and a calculated number of extended employment days. This scheme for funding was termed the “Minimum Foundation Program.” The “Power Equalization Program” provided additional funds to rural school systems because of conditions such as low population density, mountainous terrain, and other
environmental circumstances. These two programs evolved with the intent to provide equal funding to school systems across Kentucky. The Kentucky Supreme Court, however, ruled that this funding mechanism was in fact biased in favor of the wealthier districts in the state.

The enactment of KERA has brought a new funding program and accountability. Schools have been given a greater role in determining more specifically how students are taught. The availability of more monies allowed educators to offer a variety of programs to meet the needs of students. Taxpayers, lawmakers, and parents demanded a greater accountability of how well schools are preparing students. With an increase in state funding of public education, schools are responsible for providing adequate opportunities regardless of the student’s residence.

Statement of the Problem

This study investigated the KERA funding component: a new means to finance public schools. The new school finance system, known as Support Education Excellence in Kentucky (SEEK), provides for funding districts based upon a fixed amount per pupil. Additional state funds are available for districts that exceed the minimum required tax rate of 30 cents per $100 dollars property evaluation.

With the increase in funding, district administrators must advise the Board of Education regarding decisions of where to spend the additional monies. KERA also mandated an assessment of the district’s ability to meet student performance
standards. These two components of KERA were part of the legislature’s attempt to bring about an equitable education system for the youth of Kentucky. A concern of school administrators, law-makers, and the public surrounds the evaluation of the effects of the Kentucky Education Reform Act. A topic that surfaced among the various stakeholders was the effect KERA has on instructional per-pupil expenditures. Therefore, the underlying question to this study may be stated as:

Has there been a significant change in per-pupil instructional expenditures during the initial years of KERA?

Subjects of the Study

The population of this study was all Kentucky public school districts. The annual financial report for the 1989-90 school term was obtained from KDE and was used to identify the pre-KERA instructional per-pupil expenditure. The financial reports for 1991-92 and 1993-94 provided information to examine per-pupil instructional expenditures during the beginning years of KERA.

It is understood that the researcher was responsible for protecting the rights of individuals and districts involved in this study. The data are public records and available to any citizen upon written request. Although this study was primarily concerned with district level data, no attempt was made by the researcher to identify individual districts nor to report findings which would violate an individual’s right to confidentiality. The findings of this study were made available to interested parties
and the KDE. The researcher was aware of and adheres to any and all protocols, policies, rules and regulations of the Institutional Review Board of Morehead State University.

Research Questions and Hypotheses

The purpose of this study was to investigate the instructional per-pupil expenditure (PPE) after the enactment of the Kentucky Education Reform Act. Kentucky school districts were ranked by their per-pupil instructional expenditures for the 1989-90 school year. Three research questions were answered in order to provide an answer to the overall question of this study:

1. What was the average instructional per-pupil expenditure in Kentucky in 1989-90, 1991-92, and 1993-94?

2. How had the ranking of districts with regard to instructional per-pupil expenditure changed from pre-KERA (1989-90) standings to the 1993-94 school year standings?

3. Was there a significant difference between the amount of monies being spent on instructional related activities before and after the enactment of KERA?

Once the preliminary descriptive question was addressed, the more fundamental questions were answered. This was done by listing several hypotheses:

$H_0$: *There is no significant relationship between the ranking of districts in reference to PPE in 1989-90 and the ranking of districts in 1991-92.*
H₀ 2: There is no significant relationship between the ranking of districts in reference to PPE in 1989-90 and the ranking of districts in 1993-94.

H₀ 3: There is no significant relationship between the ranking of districts in reference to PPE in 1991-92 and the ranking of districts in 1993-94.

H₀ 4: There is no significant difference in the PPE for the state in 1989-90 when compared to the PPE in 1991-92.

H₀ 5: There is no significant difference in the PPE for the state in 1989-90 when compared to the PPE in 1993-94.

H₀ 6: There is no significant difference in the PPE for the state in 1991-92 when compared to the PPE in 1993-94.

Definition of Major Terms

The following definitions were used in this study and are given to provide clarity to the study:

1989-90 -- last year districts were allocated monies using the pre-KERA formulas known as the Minimum Foundation and Power Equalization Programs.

1991-92 -- second year the new funding formula was initiated as mandated by KERA.

1993-94 -- fourth year of the new funding allocation provided by KERA.
Kentucky Education Reform Act (KERA) -- legislation passed by the Kentucky General Assembly and signed into law by Governor Wallace Wilkinson on April 11, 1990.

Per-pupil instructional expenditure (PPE) -- average dollar amount of a district's General Fund instructional money spent per student in average daily attendance. For the three years under investigation, the per-pupil instructional expenditure will be obtained from the appropriate Kentucky Department of Education Annual Reports and from the KDE reports Profiles of Kentucky Public Schools (Office of Internal Administration, 1990; Office of Management Information Services, 1992) and Receipts and Expenditures (Office of Management Information Services, 1994).

School district -- unit of measurement for this study and consists of those entities under the control and funding of the Kentucky Department of Education.

Support Education Excellence in Kentucky (SEEK) -- new procedure by which public school systems in Kentucky are funded. State allocation of money is based upon a guarantee per student base with add-on funds based upon numbers of disadvantaged students, students enrolled in home and hospital instruction, exceptional students, transportation index, and capital outlay allocation.

Major Delimitations and Limitations

The following delimitations and limitations pertain to this study:
1. The study was limited to the per-pupil instructional cost reported in KDE’s Profiles of Kentucky Public Schools (Office of Internal Administration, 1990; Office of Management Information Services, 1992) and Receipts and Expenditures (Office of Management Information Services, 1994) as a means of identifying the 30 districts with the highest and the 30 districts with the lowest per-pupil expenditures. No attempt was made to identify the expenditures in terms of whether they occurred at the elementary, middle, or secondary level, or the specific purpose of the expenditure. Federal funds allocated for instructional purposes were not included in this study.

2. This study was limited to the public school districts in the state of Kentucky during the early years after the passage of the Kentucky Education Reform Act. This study’s findings may not be applicable to public and/or private educational organizations in other states.

3. This study was limited by the statistical procedures used and the level of significance selected.

Significance of Study

As reform efforts are occurring across this nation, the U. S. Department of Education, Office of Educational Research and Improvement (OERI) is attempting to investigate effective reform. In 1991, Congress requested the Office of Research (OR) at OERI to investigate education reform and to develop a knowledge base
sufficient to support sustained implementation of successful reforms. According to a report released by OERI (1994), studies interested in contributing to the knowledge base on reform should focus on three research questions: What is required to initiate and sustain reform? What are the incentives for, and barriers to, reform? What are the effects of reform?

To measure the success of the reform movement, it becomes necessary to examine the components of the reform itself. While the Kentucky reform movement included several components, the principle concern across the state focused upon the inequities in the allocation of monies to districts. The new funding formula required a minimum local effort which was deducted from a guaranteed amount per student in average daily attendance. In addition, school systems are now required to allocate to schools monies to be used for instructional materials, supplies, staffing, support services, and training. This increase in available funds allowed individual schools to obtain resources to meet the academic needs of students. How better to explore the influence of reform on student learning than by examining the changes in the amount of money spent on instruction?

Educational leaders have the responsibility to assess the progress of their schools. They are accountable for the way funds are expended as well. This study provided a baseline of information regarding the status of expenditures for school districts during the initial years of a reform act.
CHAPTER II

REVIEW OF THE LITERATURE

Introduction

This chapter presents a review of the literature related to a component of many educational reform movements: educational funding. The review examined various positions related to financing public education to gain insight into the history of school finance and to understand the perceived effect expenditures have upon the quality of schools.

Murnane (1983) noted that a large number of quantitative studies exist which investigate the relationship between school resources and student achievement. “Some are called input-output studies, others educational production function studies, and others simply multivariate studies of school effectiveness” (Murnane, p. 194). School resources in these studies focused on physical facilities, library books, student-teacher ratios, and school size. Other studies provided insight into resources such as characteristics of teachers and classmates, indicators of teacher quality, the amount of time devoted to learning tasks, and instructional techniques and curricula (Murnane).

Murnane (1983) discussed these studies and noted “student achievement was measured by improvements in scores on standardized tests of cognitive skills” (p. 195). As Kentucky moves away from standardized achievement tests to authentic assessment, the determination of whether input—the funding of public education—has
an effect upon the output--student performance on the state’s assessment instruments--continues to be a question of educational administrators. To this extent, this review of the literature intended to present issues related to school finance and instructional expenditures.

Earlier Reform Movements

It appears that the educational system has always been under constant scrutiny, and both individuals and groups have sought to change the way the youths are prepared for adult life. From the beginning of the American system of public education, constant efforts to establish a “better way of doing things” has been examined and implemented. Volumes of books have been written describing the various movements that have taken place over the last 150 years (Cremin, 1964; Tyack & Hansot, 1982; Kliebard, 1987; Anderson, 1988).

Cremin (1964) wrote of the changes that took place in the American educational system from 1876 to 1958. The various platforms on which the pedagogical pioneers stood exemplify the constant movement from one philosophy of education to another. It is interesting, however, to note the similarities that exist to the present reform movements. The progressive movement offered a vision of the scope the American educational system should include. John Dewey, a supporter of this movement, sought to focus education upon the establishment of a system that
would meet the educational needs of the students and at the same time meet the needs of society.

As early as the 1630's, the colony of Massachusetts began to recognize the importance of education and established law which provided for the taxation of property for town and colony benefits. Additional laws were to follow which provided a foundation for the present public educational system. The Massachusetts law of 1642 ordered that “all children should be taught to read and understand the principles of religion and the capital laws of the country” (Rosenstengel & Eastmond, 1957, p. 27). Such laws in early American colonies provided for the compulsory education of children and the support of this education through public taxation. It is on these premises that our present educational system is based.

Prior to the 1647 Massachusetts law for taxing property (town tax), voluntary contributions were collected each Sunday as a means to support the schools. This method proved to be inadequate, however, and colonies began looking for a better way of raising funds. Although the town tax provided money for supporting education, it was never enough. Other means for supplementing the town tax were examined. The fuel or wood tax required every parent to either haul a specified amount of firewood to the school house, pay someone else to haul the fuel, or to be assessed an amount of money (Rosenstengel & Eastmond, 1957).
The taxing of citizens provided the necessary support for the elementary or common schools around the middle 19th century. Education beyond the elementary level took place within the confines of private or semiprivate academies and colleges (Rosenstengel & Eastmond, 1957). It was the need of extending education from the elementary level to the high school level that brought about a new movement in the financing of public education. Massachusetts in 1827 established legislation that mandated a high school be maintained in towns of over 500 families. New York was quick to follow, but both states proceeded slowly in getting the schools established. The slow progress was primarily because the high school's support came entirely from local taxation.

As attacks were made in courts over the legislative provisions for the high school, a key decision occurred in Michigan which would affect "virtually all subsequent judicial opinions in matters pertaining to the establishment of tax-supported high schools" (Rosenstengel & Eastmond, 1957, p. 34). Known as the Kalamazoo case, this 1872 decision is "considered a landmark in the upward extension of the public school system" (Rosenstengel & Eastmond, p. 34). The courts held the position in the Kalamazoo case that public education extends from the elementary to the high school level. The funding at the secondary level was to be obtained from taxing the local community. It was also in the Kalamazoo case that the right of individuals to obtain a post-elementary education was granted by providing a
means by which high schools would be funded. This provision meant that individuals could attend high school without the cost of tuition or enrollment fees.

**Development of School Finance Theory and Practice**

As the educational system of the United States progressed, it became clear the funds provided at the local level were not sufficient to finance the system. Cries at the local level for the need of additional funding and pending law suits brought to light the role of the state in the financing of public education. There was, however, no simple way to provide the funds to grant all students an equitable education. Administrators and legislators began working on schemes for allocating monies to local districts.

Burrup, Brimley, and Garfield (1988) noted that the development of school finance theory and practice can be divided into five periods. These stages of development show a relationship between state and local government roles in the funding of education and have followed no defined pattern in the 50 states. The five stages of financing public education described by Burrup et al. were (1) the period of local responsibility with little or no assistance from the state; (2) the period of emerging state responsibility; (3) the emergence of the Strayer-Haig concept of a foundation program; (4) the period of refining the foundation program; and (5) the present period of equalization cost and emphasis on high-quality education.
The first stage of the development of school finance theory emphasized local community responsibility to funding and financing public education. As already noted, education obtained support through rate bill or tuition charges. The idea of a permissive property tax grew as the westward movement of settlers across this country accelerated. By 1890, “all of the states were using property taxes, supplemented in many instances with revenues from the land grants and from other sources” (Burrup et al., 1988, p. 163) as a means of financing the education program.

The weaknesses and limitations of funding education solely at the local level affected the ability to school students. In seeking equality in educational opportunities for all students, it becomes more apparent that the differences in the local tax paying ability to meet the costs of education produces inequities in educational programs. “Since each district is almost completely on its own as far as finances are concerned, the place of each pupil’s residence becomes the all-important determinant of the quantity and quality of education available” (Burrup et al., 1988, p. 163).

Period of State Level Grants and Allocations

State leaders began recognizing the need for additional funds--state funds in the forms of grants and allocations--to support local efforts to finance education. It was Ellwood P. Cubberley who was recognized as the pioneer that promoted the consideration of state apportionment of funds to local school districts. His
philosophy of school finance came from his belief that “all the children of the state are equally important and are entitled to have the same advantages” (Cubberley, 1905, p. 17).

Cubberley has been widely recognized as the first to consider the role of school finance as a means of equalizing the educational opportunity afforded to students and to define the role of state governments in providing funds to assist public school districts (Rosenstengel & Eastmond, 1957). He was an early advocate of the theory that states should equalize funds for local schools in order to assist low-wealth school districts. During the early 1900’s, public schools were supported jointly by the state and local communities. As the cost of education rose, however, the overall percentage of state support decreased. This rise in the cost of education resulted from increases in student enrollment, the length of the school year, the number of years individuals attended school, and the overall cost of the various “additions” to the school’s offerings.

Following Cubberley’s study of apportionment of state school funds, several attempts were made to analyze practices and principles for allocating funds for public education (Rosenstengel & Eastmond, 1957). Funds made available for local districts included flat grants and percentage grants. Their effect on local education, however, showed that these types of allocations did not reduce inequalities in the educational program. Interested in examining the connection between state fund allocations and
its role in reducing the wide range of quality in education, Cubberley conducted the first scientific study of funding programs to “assure equality of educational opportunity for all” (Burrup et al., 1988, p. 1964).

Cubberley’s dedication to the principle of equity in educational opportunities stemmed from the ideas and standards he adopted. Several of these ideals Cubberley held were described by Burrup et al. (1988) as listed below:

1. The belief that education was indeed a financial responsibility of the states, which they could not and should not ignore.

2. The firm conviction that state financial support was in addition to local effort, not intended as justifiable tax relief to local districts.

3. The awareness that existing methods of allocating state monies not only did not equalize the financial ability among local districts but may actually have increased financial inequalities among districts.

4. The need to increase the number of educational programs offered in the schools with attendant increases in state money for those districts with such extensions. This was his [Cubberley] widely known version of reward for effort.

5. The wisdom of using aggregate days attendance over census, enrollment, average daily attendance, or any other measure used in determining the amount of state funds to local districts. This would encourage
the extension of the school year and would penalize those districts that
shortened the total length of their school year.

6. Distribution of some part of the state funds on the basis of the number
of teachers employed in a district. He [Cubberley] felt that his provision
would aid the rural districts, which usually had a low pupil-teacher ratio. (p.
165)

As school districts enhanced the offerings available to students, they
experienced a corresponding increase in the amount of funding needed to support
these improvements to the instructional program. Taking into consideration such
factors as the socioeconomic status of the community, class size, and noninstructional
needs such as transportation, state support of schools changed from a fixed dollar
amount to one which provided a minimum equalization support program. Mort
(1926) noted that the sharing of the burden for financially supporting the education
within a community should also result in the sharing of control.

Emergence of the Foundation Program Concept

George D. Strayer and Robert M. Haig, utilizing the philosophy of Cubberley,
developed a theory of school financing by means of a foundation program. The
equalization with the foundation program began with the findings of the Educational
Finance Inquiry Commission in 1923. Strayer and Haig studies of New York schools
found the distribution of state funds favored "the very rich and the very poor localities" (as cited by Burrup et al., 1988, p. 167).

The foundation program centered on several standards described by Burrup et al. (1988) which includes:

1. A foundation program should be devised around the rich district idea -- each local district would levy the amount of local tax that was required in the richest district of the state to provide a foundation, or minimum, program. The rich district would receive no state funds; the other districts would receive state funds necessary to provide the foundation program.

2. All foundation programs should guarantee equality of educational opportunity up to a specific point, but all local districts should have the discretionary right to go beyond that point and provide a better program through tax-levy increases.

3. The program should be organized and administered to encourage local initiative and efficiency. ...

7. The program should be organized so that no district receives additional funds because it is underassessed for property taxation purposes at the local level; uniform property assessment is essential in all foundation programs. ...
The foundation program should be a minimum and not a maximum program; local initiative and increased expenditures above the foundation program must be practicable in all the districts of a state. (p. 167)

Jordan and Lyons (1992) noted that a criticism of the foundation program was that the funding is at the minimum level and most likely not sufficient to support an adequate education program. The state's role was to provide only the funds necessary to establish a minimum level of services and education at the local level. Any attempt to provide a program beyond the minimum level becomes the commitment of the local district and taxpayers.

**Refinement of the Foundation Program**

Critics of Strayer and Haig's foundation program included Henry C. Morrison and Harlan Updegraff. While their theories were not popular during their time in the early 1900's, they have become increasingly relevant in the present attempt to fund education. Morrison held the position that local school districts were unequal in their ability to provide equal opportunities for students across the state. The allocation of funds to the local level was not offering the support necessary to provide an equitable education system (Burrup et al., 1988, p. 179).

Morrison addressed this position by theorizing that if the state were one big school district, then the problems of taxing could be equalized and the distribution of funds could be made without complicated formulas. Considering the state as one
school district is an attempt to deal with the problems of inequity “resulting from
different levels of taxable property wealth among local school district” (Jordan &
Lyons, p. 40).

Another of Morrison’s ideas considered the use of state income tax as a means
of obtaining monies to fund education. It was in this manner that the citizens of the
state would contribute to the funding of education based upon their relative earning
during the year. Morrison’s ideas were unpopular during his time. There existed a
lack of support for replacing property tax with monies generated from income taxes
(Burrup et al., p 170). Currently, Hawaii’s schools are totally funded from the state
level with no local tax revenues collected for support.

Updegraff’s plan for financing public education involved supplementing the
efforts of the local district with state funds. Jordan and Lyons (1992) termed
Updegraff’s approach the “local effort-oriented equalization system” (p. 38). After
the setting of the tax rate which determined the level of spending a district wished to
make, the state would then provide the difference between the amount generated at
the local level and a state-guaranteed amount (Jordan & Lyons). This method
provided equal funding for all students in both rich and poor districts that tax at the
same rate or spent the same amount per pupil.
Emerging Power Equalization

Updegraff’s plans for funding education included an attempt to share the cost of education between the state and local government. Power equalization was a concept that held that the state and local district should form a partnership in “establishing and paying for a basic program of education for every school-age child in the state” (Burrup et al., 1988, p. 171). The basic assumption of the power equalization program was that a foundation program would be established. Each district would contribute a different amount depending upon the economic status of the school district and thus would receive a different proportion from the state. This ratio of support would “be maintained to pay the total cost of the school program in each district” (Burrup et al., p. 172). The local district would maintain control by determining the tax rate to be levied in the district. This approach to funding education is still being used in some states, while others have gone to a two-tiered system that includes both a foundation and power equalization program (Jordan & Lyons, 1992, p. 40).

As various reform movements attempted to address the responsibility of financing public education, there is a constant discussion of which method of funding education is most efficient. Within several states—California, Michigan, North Carolina, Iowa, New Jersey, Texas, Connecticut, Massachusetts, and Kentucky—individuals and groups have filed law suits in the courts questioning the legality of the
particular state's education funding formula and its ability to meet the educational needs of the citizens. For many, the methods used to fund education were outdated (Burrup et al., 1988). To change the way education is funded requires legislative action, and with this change would come a disruption in the state's funding and taxation system.

The need to reduce the disparities that exist in the funding of education was voiced by Stern (1973) when he wrote:

The present system of public school finance, far from helping to equalize educational opportunity, actually promotes inequality by letting wealthier families obtain larger amounts of money for the education of their children. They achieve this by clustering together in more or less homogeneous school districts, so as to pool their wealth and avoid paying for the education of less-affluent children. Reliance upon local districts to finance public schools thus enables affluent families to convert their physical capital into human capital for their children. (p. 226)

**Major Court Cases**

The questions surrounding the issue of financing education generated a number of suits by individuals and groups against various state governments. The argument brought before many courts was based on the premise that an inequality existed in the way school districts were allocated state monies for education. For
many taxpayers, it was the state that held the burden to provide funds to finance education. Rather than looking at ways of increasing local effort, the goal of the plaintiff was to argue that flaws existed in the state funding formula used to determine the amount of money sent to the school district.

*Serrano v. Priest* (1971) involved a challenge to California's school finance system. The Supreme Court of California rendered the decision that the method of funding education was unconstitutional and that a revised method of distributing funds for public education was to be developed (Burrup et al., 1988).

The basis for the suit was simple. Serrano's complaint alleged that there existed "disparities in school funds available per pupil. At the time the Serrano suit was brought to court, educational expenditures per person in California ranged from $274 in one district to $1,710 in another" (Burrup et al., 1988, p. 246). The inequity was due primarily to the differences in assessed valuation of property per pupil. In its ruling, the California Supreme Court declared the method of financing education was dependent on local property taxes and that this dependence was "the root of the constitutional defect" (Burrup et al., p. 246).

Soon after the *Serrano* ruling in California in 1971, Minnesota's system of financing education was declared unconstitutional by a federal district court judge in the case of *Van Dusartz v. Hatfield* (1971). Accepting the arguments from the California case, the judge ruled that "the level of spending for a child's education may
not be a function of the wealth other than the wealth of the state as a whole” (Burrup et al., 1988, p. 249).

Following the pattern set by Serrano, the New Jersey Supreme Court of Hudson County ruled that the state’s financing system “created inequities that violated the state constitution’s educational provision and also the equal protection clause of the Fourteenth Amendment” (Burrup et al., 1988, p. 250). The court, in its ruling relating to the case of Robinson v. Cahill (1972), gave the New Jersey state legislature three years to establish a new program for public school financing with less dependency on local property taxes.

A second landmark case was San Antonio Independent School District v. Rodriguez (1973). In this case, a federal court ruled that the Texas financing system violated both the federal and the Texas constitutions. Accepted for review by the United States Supreme Court, Rodriguez became “the first and only equal protection case concerning school finance to be considered by the high court to date” (Burrup et al., 1988, p. 251).

The United States Supreme Court reversed the decision handed down by the federal court and held that Texas’ method of financing education did not discriminate against any class of persons, because the financing method dealt with property-poor school districts, not individuals. A key point brought out in the court ruling was that education is not a federal constitutional right, but rather a right outlined within each
state’s constitution. With this position, the United States Supreme Court declined to hear cases regarding school finance and it was Melvin (1984) who stated:

The Supreme Court of the United States has spoken and it is clear that the problems of reform must be handled by the states. The decision in *Rodriguez* pointed out that the high court considered the matter one for states to solve. This posture has been strengthened by the fact that the high court has refused to review decisions of state supreme courts in this area since *Rodriguez*. (p. 154 as cited by Burrup et al., 1988, p. 253-4)

Following the United States Supreme Court ruling, state courts either followed *Serrano* or *Rodriguez* as a foundation for their decisions. Those citing *Serrano* ruled on the basis that “school finance formulas violated the equal protection or equal educational opportunity clauses of their state constitutions or that education is a fundamental interest protected by the state constitution. Those state courts that have followed the *Rodriguez* philosophy have been unable to find a rationale in state constitutions for equalizing per pupil expenditures” (Burrup et al., 1988, p. 254).

In the cases of *Thompson v. Engelking* (Idaho, 1975), *Lugan v. Colorado State Board of Education* (Colorado, 1982), *Hornbeck v. Somerset County Board of Education* (Maryland, 1983) and *East Jackson Public Schools v. State* (Michigan, 1984), the courts decided that the state’s school financing system did not violate the state or federal equal protection clause and was ruled as constitutional. On the other

Sixty-six school districts, 7 boards of education, and 22 public school students formed the Council for Better Education in 1985. Tired of the negative publicity of student achievement, inadequate funds, and the belief that inequities existed in the public education system, former Governor Bert Combs filed a class action suit in Frankfort seeking relief from what was eventually ruled as a "discriminatory" and "inefficient" funding system for public education (Steffy, 1993).

Judge Ray Corns ruled in favor of the plaintiffs, stating that "the General Assembly had failed to provide an efficient system of common schools, and that the system of school financing was inefficient, in the constitutional sense, and discriminatory" (Legislative Research Commission, 1994, p. 6). Upon appeal, it was the case of *Rose v. Council for Better Education* (Kentucky, 1989) the Kentucky Supreme Court held that "the system of common schools in Kentucky was unconstitutional" (Legislative Research Commission, p. 6).
Responding to the Supreme Court decision, the General Assembly formed the Task Force on Education Reform. The goal of this task force was to develop appropriate strategies to restructure Kentucky's public education system. Three committees were formed and addressed the areas of curriculum, governance, and finance. The finance committee, with assistance from consultants, developed a method of funding education which differed from the previous minimum foundation and power equalization programs. In hopes of removing the disparities between the rich and poor counties of Kentucky, the committee on finance considered a minimum tax rate which was to be levied by all school districts, reassessment of real and tangible property, and funding based upon average daily attendance multiplied by a per student amount.

In 1969, Kentucky provided $235,000,000 in state funds to support education. The new funding program, identified as the Support Education Excellence in Kentucky (SEEK) formula, provided $1,469,888,000 to Kentucky school districts in 1991 (Steffy, 1993). As school districts received increases in state monies, their levels of accountability also increased. Educators needed to be trained not only on the provisions of KERA, but also on the components of KERA that would involve a change in the activities occurring at the district or school level. Funds were needed to provide additional services for at-risk students. The average teacher salary in 1989-90 was $26,292 and there were demands from these shareholders for an increase in their
pay (The Kentucky Institute for Education Research, 1994). Above all, there was a need to increase the expenditures in the areas that would have the greatest impact upon student performance, the area of instruction.

**Instructional Expenditure**

One of the concerns related to investigating expenditure issues of a school district is defining the term *expenditure*. Whether it be operational, instructional, or support service expenditures, investigating school districts’ expenditures has been expressed in terms of per-pupil dollars (Haring, 1993; Picone, 1993; Taglieri, 1993). Regardless of which approach is used to define what is meant by *expenditure*, researchers attempt to examine expenditures in terms of *per-pupil* funds spent. An additional aspect to the concept of per-pupil dollars is whether the number of pupils within a school system is based upon membership (the number of students enrolled) or upon attendance (the average number of students present on a school day).

Rosenstengel and Eastmond (1957) state that average daily attendance (ADA) is the preferred unit of measure when conducting cost studies related to total education cost, current expense cost, administrative cost, and instructional cost.

In their publication *Digest of Education Statistics -- 1993*, the National Center for Education Statistics (1993) reported the per-pupil expenditures based on ADA for the period from 1959-60 to 1990-91 for the fifty states and other areas. Table 1 provides a comparison of the expenditures for the school years 1989-90 and 1990-91.
As the table shows, the 1989-90 national average was $4,962 while the 1990-91 average was $5,245 per student in ADA. For both years, the District of Columbia had the highest amount spent of $8,850 and $9,259, with Utah having the lowest amount of $2,763 and $2,960. Kentucky's per pupil expenditure changed from $3,675 in 1989-90 to $4,354 in 1990-91. The data reported considers all monies spent, excluding dollars related to school construction and retirement of debt.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>1989-90</th>
<th>1990-91</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum</strong></td>
<td>8,850</td>
<td>9,259</td>
</tr>
<tr>
<td><strong>Kentucky</strong></td>
<td>3,675</td>
<td>4,354</td>
</tr>
<tr>
<td><strong>Minimum</strong></td>
<td>2,764</td>
<td>2,960</td>
</tr>
<tr>
<td><strong>United States</strong></td>
<td>$4,962</td>
<td>$5,245</td>
</tr>
</tbody>
</table>


Over the past 70 years, per pupil expenditures in our nation's schools have increased from $355 in 1919-20 to $5,582 in 1990-91. Table 2 presents the historical trend of monies spent per student over the past 70 years. The unadjusted dollars reflect the actual average while the constant dollars reflect an adjustment because of inflation. Table 2 indicates the amount of money being spent on education has
increased almost five-fold from 1949-50 to 1990-91. A second point to be noted is that the reporting of dollars spent is expressed in terms of per-pupil in average daily attendance. Rather than reporting in total dollars, it is more meaningful to report expenditures by an appropriate unit of measure.

Table 2

**National Average Expenditure Per Pupil in Average Daily Attendance**

<table>
<thead>
<tr>
<th>Year</th>
<th>Unadjusted Dollars</th>
<th>Constant 1992-93 Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1919-20</td>
<td>$ 53</td>
<td>$ 399</td>
</tr>
<tr>
<td>1929-30</td>
<td>87</td>
<td>722</td>
</tr>
<tr>
<td>1939-40</td>
<td>88</td>
<td>898</td>
</tr>
<tr>
<td>1949-50</td>
<td>210</td>
<td>1,266</td>
</tr>
<tr>
<td>1959-60</td>
<td>375</td>
<td>1,820</td>
</tr>
<tr>
<td>1969-70</td>
<td>816</td>
<td>3,079</td>
</tr>
<tr>
<td>1979-80</td>
<td>2,272</td>
<td>4,171</td>
</tr>
<tr>
<td>1989-90</td>
<td>4,962</td>
<td>5,570</td>
</tr>
<tr>
<td>1990-91</td>
<td>5,245</td>
<td>5,582</td>
</tr>
</tbody>
</table>


The amount of funds spent per student not only differs by state, but it also differs in the amount of revenue received from federal, state, and local sources. The
Digest of Education Statistics - 1993 (National Center for Educational Statistics, 1993) also provides information about the sources of school funds. In 1989-90, 6.1% of revenues for school districts came from federal sources, 47.3% from state sources and 46.6% from local and private sources. On the average in 1990-91, 6.2% of school districts' revenues came from federal sources, 47.2% from state sources, and 46.7% from local and private sources.

Prior to KERA, Kentucky's education revenue from federal sources constituted 9.8% of all revenues. The state provided 68.5% of the school districts' revenue and 21.6% came from local and private sources. In 1990-91, Kentucky, after the enactment of KERA, provided school districts with 66.9% of school funds with 9.5% coming from federal sources and 23.5% from local sources. The increase in local support may be attributed to the mandated minimum tax rate of 30 cents that all districts assessed.

While it appears that after KERA, school districts' revenue from state sources decreased, in actuality the total amount of revenue received by Kentucky's school districts from all sources increased from $2.2 billion in 1989-90 to $2.7 billion in 1990-91. State sources provided Kentucky school districts with approximately $1.54 billion in 1989-90 and $1.83 billion in 1990-91. (National Center for Education Statistics, 1993, p. 152-3).
Conclusion

Educational and community leaders have been toying with various mechanisms of securing funding for public education. Over time, the United States has used several methods to support the schooling of our children. The goals of any system attempting to fund education are to provide an equitable distribution of funds along with an equitable distribution of support by the local community.

The amount of funds spent on public education have increased from an average of $375 in 1959-60 per student to $5,421 in 1991-92. (National Center for Education Statistics, 1993). The economy has influenced this increased expenditure, and the addition of new offerings and programs at the district and school level have increased as well. The costs of providing support for special programs, instructional materials, additional support staff, facility improvements, and demands for greater accountabilities have caused expenditures to increase dramatically.

As Kentucky entered a new era of financing education, questions arose among educators, community leaders, and politicians regarding the affect KERA had on the amount of money flowing to school districts. This study investigated the funding of Kentucky public schools during the initial years of the Kentucky Education Reform Act. If KERA answered the charges of inequities in funding, then an examination of the financing of education seemed appropriate.
CHAPTER III
DESIGN AND METHODOLOGY

Introduction

The purpose of this exploratory study was to examine Kentucky public school
districts' per-pupil instructional expenditures. Information related to school districts’
instructional expenditures along with the per-pupil instructional expenditures for
1989-90, 1991-92, and 1993-94 school years were obtained from the Kentucky
Department of Education (KDE), Division of Management Support and from the
KDE publications, Profiles of Kentucky Public Schools (Office of Internal
Administration, 1990; Office of Management Information Services, 1992) and
Receipts and Expenditures (Office of Management Information Services, 1994).

This study looked at the early years of KERA and the effect the reform
movement had on per-pupil instructional expenditure. The focus question for this
study:

Has there been a significant change in per-pupil instructional
expenditures during the initial years of KERA?

An assumption of KERA was that improved funding strategies would
eliminate the inequity that has previously existed. The opportunities available to
students would be “the same” regardless of where the students live. If this
assumption is valid, then there should be evidence of a narrowing of the gap between
school districts. The amount of money being spent by districts should be increasing
because more money was available. The following research questions relate to the focus question.

1. What was the average per-pupil instructional expenditure in Kentucky in 1989-90, 1991-92, and 1993-94?

2. How has the ranking of districts with regard to per-pupil expenditure changed from pre-KERA (1989-90) standings to the 1993-94 school year standings?

3. Is there a significant difference between the amount of monies being spent on instructionally related items before and after the enactment of the reform act?

Descriptive statistics were computed related to the per-pupil instructional expenditures to answer the first research question. Six hypotheses were tested to answer the second and third research questions.

**Design of the Study**

**Population**

The data related to all public school districts are annually reported to the Kentucky Department of Education. The availability of the complete data set allows the inclusion of all public school districts in this study. Thus, the sample of this study was all Kentucky public school districts. The 1989-90, 1991-92, and 1993-94 per-pupil instructional expenditures (PPE) for the school districts were obtained from the KDE and the annual financial reports available to school districts.
Procedures

The Office of District Support Services within the Kentucky Department of Education was contacted regarding the acquisition of information for the data analysis. This information exists in both written form (documents that are printed and distributed to central office personnel) and on magnetic disk. After obtaining the data relating to per-pupil instructional expenditures that occurred during the 1989-90, 1991-92, and 1993-94 school years, the information was organized in a data file which was used for the statistical analysis.

All Kentucky school districts were entered into a SPSS® data file, along with the three years of instructional PPE. There were 177 school districts in Kentucky in 1989-90, but this number was reduced to 176 with the closing of an independent district. Thus, it was necessary to consider only those districts that existed for all three years in this study. For each year, the PPE were ranked with the lowest PPE assigned the numerical value “1” and the highest PPE the value “176.”

Instrumentation

Data were obtained by the Division of Management Support of the Kentucky Department of Education from annual reports submitted by district administrators. The instructional expenditures for all districts were collected for the years 1991-92 and 1993-94. These expenditures are reported by all school districts as part of their Annual Financial Report. For the purpose of this study, only those expenditures
reported within the 200 codes were used. The 200 codes were part of the KDE financial accounting system and denote monies spent on activities directly or indirectly related to curriculum and instruction.

For the 1989-90, 1991-92, and 1993-94 school years, the per-pupil instructional expenditure for each district was obtained from the KDE documents Profiles of Kentucky Public Schools (Office of Internal Administration, 1990; Office of Management Information Services, 1992) and Receipts and Expenditures (Office of Management Information Services, 1994). Obtaining the data from KDE insured the instructional PPE was calculated using a uniform formula.

Design

This research project intended to examine the per-pupil instructional expenditures. An ex post facto design was utilized as the outcomes have already occurred in a naturalistic fashion (Tuckman, 1972). Tuckman discussed two types of ex post facto designs: co-relational study and criterion-group design. The co-relational study “involves the collection of two or more sets of data from a group of subjects with the attempt to determine the subsequent relationship between those sets of data” (Tuckman, p. 124). Alternatively, Tuckman stated that “by contrasting the characteristics of a state with the characteristics of its opposite state,” (p. 125) the researcher utilized a criterion-group design. This project employed the criterion-group design.
Analysis

The data were organized within one table using SPSS® for Windows. The district's name and per pupil instructional expenditure for 1989-90, 1991-92, and 1993-94 were organized into the data table. Copies of the data table were maintained on separate diskettes to insure the existence of both a working copy and a backup copy.

Research Question 1: What was the average per-pupil instructional expenditure in Kentucky in 1989-90, 1991-92, and 1993-94?

To answer the first research question, general descriptive statistics were computed for the three years of PPE. These included mean, standard deviation, minimum, and maximum instructional per-pupil expenditure for each year.

Research Question 2: How had the ranking of districts with regard to per-pupil expenditure changed from pre-KERA (1989-90) standings to the 1993-94 school year standings?

The first three hypotheses were tested to answer the second research question which relates to the instructional PPE ranking of districts for the years under consideration.

To test each of these hypotheses, a Spearman correlation coefficient was computed to determine if there is a significant difference between the ranking of the
two groups under consideration. A significance level of .05 was used to test for statistically significant difference.

\( H_0 1: \) There is no significant relationship between the ranking of districts in reference to PPE in 1989-90 and the ranking of districts in 1991-92.

\( H_0 2: \) There is no significant relationship between the ranking of districts in reference to PPE in 1989-90 and the ranking of districts in 1993-94.

\( H_0 3: \) There is no significant relationship between the ranking of districts in reference to PPE in 1991-92 and the ranking of districts in 1993-94.

The last three hypotheses examined the relationship between the per-pupil instructional expenditures for the various years under consideration. The third research question being investigated:

Research Question 3: Was there a significant difference between the amount of money spent per-pupil on instructional related activities before and after the enactment of KERA?

An independent-sample t-test was used to test for significant difference at the .05 level. The three hypotheses examined to respond to the third research question were:

\( H_0 4: \) There is no significant difference in the PPE for the state in 1989-90 when compared to the PPE in 1991-92.

\( H_0 5: \) There is no significant difference in the PPE for the state in 1989-90 when compared to the PPE in 1993-94.
$H_0 \ 6$: *There is no significant difference in the PPE for the state in 1991-92 when compared to the PPE in 1993-94.*
CHAPTER IV
ANALYSIS OF DATA

Introduction

The findings presented and discussed in this chapter focus upon the research questions and null hypotheses found in Chapter I. Sections discussed in this chapter: population summary statistics, and analysis of the research hypotheses.

Population Summary Statistics

Research Question 1: What was the average per-pupil instructional expenditure in Kentucky in 1989-90, 1991-92, and 1993-94?

The population for this study included all Kentucky public school districts that existed for the three years of interest in this study. One independent school district merged with a county district at the end of the 1989-90 school year. The per-pupil instructional expenditure for this independent district was not included in the descriptive statistics nor the statistical analysis. Shown in Table 3 are the summary statistics for the population. As the complete population was available, these descriptive statistics report the actual instructional per-pupil expenditures that existed in 1989-90, 1991-92, and 1993-94.

For the state, the average PPE in 1989-90 was approximately $2,059 (SD = $274.81) with the minimum and maximum PPE being approximately $1,500 and $3,709, respectively. The mean PPE was approximately $2,681 (SD = $291.12) and $2,894 (SD = $325.12) for the 1991-92 and 1993-94 school years, respectively.
maximum PPE in 1993-94 was $5,350 as compared to $4,390 in 1991-92. At the other extreme, the minimum PPE in 1993-94 was $2,215 while the minimum in 1991-92 was $1,836.

Table 3

Population Per-pupil Instructional Expenditures

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>Minimum PPE</th>
<th>Maximum PPE</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989-90</td>
<td>$2,058.93</td>
<td>274.81</td>
<td>1,499.59</td>
<td>3,709.46</td>
<td>176</td>
</tr>
<tr>
<td>1991-92</td>
<td>$2,680.92</td>
<td>291.12</td>
<td>1,836.29</td>
<td>4,389.93</td>
<td>176</td>
</tr>
<tr>
<td>1993-94</td>
<td>$2,893.96</td>
<td>325.12</td>
<td>2,214.96</td>
<td>5,350.19</td>
<td>176</td>
</tr>
</tbody>
</table>

The purpose in displaying the summary statistics is to describe the instructional per-pupil expenditures for the Commonwealth of Kentucky. By reporting both the minimum and maximum PPE, the diversity that existed for expenditures is evident.

Analysis of the Research Hypotheses

Research Question 2: How had the ranking of districts with regard to per-pupil expenditure changed from pre-KERA (1989-90) standings to the 1993-94 school year standings?
A Spearman correlation coefficient was computed to test the first three null hypotheses. The results of the computation are presented in Table 4.

Table 4

Spearman Rank-order Correlation Coefficients for Per-pupil Instructional Expenditures in the 1989-90, 1991-92, and 1993-94 School Years (N = 176)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1989-90</td>
<td>.7151*</td>
<td>.5879*</td>
</tr>
<tr>
<td>1991-92</td>
<td>.7151*</td>
<td>.5879*</td>
</tr>
</tbody>
</table>

* p < .05

H₀₁: *There is no significant relationship between the ranking of districts in reference to PPE in 1989-90 and the ranking of districts in 1991-92.*

The results related to H₀₁ presented in Table 4 indicate that the ranking of districts in 1989-90 based upon per-pupil instructional expenditures was similar to the ranking of district in 1991-92. Based upon the findings, \( r_s = .7151, p < .05 \), the rejection of H₀₁ was warranted. This result indicates that although there was an average increase in instructional PPE of approximately $600, the increase in expenditures realized by districts did not alter significantly the rank of the districts. Those districts at the top remained at the top and those at the bottom tended to remain at the bottom.
$H_0$ 2: *There is no significant relationship between the ranking of districts in reference to PPE in 1989-90 and the ranking of districts in 1993-94.*

The second hypothesis investigated the PPE ranking of districts in 1989-90 and compared it to the ranking of districts in 1993-94. As reported in Table 4, the findings, $r_s = .5879$, $p < .05$, indicated that there existed a significant relationship in the ranking of districts for the two years and the null hypothesis in this case was rejected. As with the first hypothesis, there was support that the rank districts held in 1989-90 did not change significantly in 1993-94. The strength of the relationship ($r_s = .5879$) between 1989-90 and 1993-94, however, is not as strong as the relationship found between 1989-90 and 1991-92 ($r_s = .7151$). This implies that the rank position of more districts had changed from 1989-90 in 1993-94 than had changed in 1991-92. One possible explanation for this is in regard to the local property taxes assessed by local districts. As districts began to realize the monetary advantage to raising taxes, this increase in income could have had an influence upon the ranking held by the districts.
H₀ 3: *There is no significant relationship between the ranking of districts in reference to PPE in 1991-92 and the ranking of districts in 1993-94.*

The third hypothesis considered the per-pupil instructional expenditure ranking of districts in 1991-92 and compared it to the PPE ranking of districts in 1993-94. Table 4 reports the results of the Spearman Correlation Coefficient relating to H₀ 3. Based upon the results, the null hypothesis was not supported at the .05 level of significance, \( r_s = .8528, p < .05 \). Thus, there appears to be support that the rank districts held in 1991-92 did not change significantly from the rank held in 1993-94. Examination of the correlation coefficient indicates the strength of the relationship between 1991-92 and 1993-94 ranking was greater \( (r_s = .8528) \) than those related to the other pairings. This high correlation indicated that the rank held by a large percentage of the districts remain the same.

Research Question 3: Was there a significant difference between the amount of monies being spent on instructionally related activities before and after the enactment of KERA?

An independent t-test was employed to test the significance of the final three hypotheses. These three hypotheses examined the amount of PPE among the years 1989-90, 1991-92, and 1993-94 and were used to examine the third research question.
H₀ 4: There is no significant difference in the PPE for the state in 1989-90 when compared to the PPE in 1991-92.

Table 5

t-test for PPE Between the 1989-90 and 1991-92 School Years

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989-90</td>
<td>176</td>
<td>2058.93</td>
<td>274.808</td>
<td>20.714</td>
</tr>
</tbody>
</table>

Mean Difference 621.99

<table>
<thead>
<tr>
<th>Variances</th>
<th>t-value</th>
<th>df</th>
<th>p</th>
<th>SE of Diff</th>
<th>95% CI for Diff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal</td>
<td>20.61</td>
<td>350</td>
<td>.000</td>
<td>30.176</td>
<td>(562.635, 681.335)</td>
</tr>
<tr>
<td>Unequal</td>
<td>20.61</td>
<td>348.84</td>
<td>.000</td>
<td>30.176</td>
<td>(562.636, 681.335)</td>
</tr>
</tbody>
</table>

The comparison of the PPE in 1989-90 and 1991-92 was made to determine if there existed a significant difference between the per-pupil instructional expenditure means. As the results indicate in Table 5, a statistically greater amount of money was spent on instructional related activities per pupil in 1991-92 (M = $2,680.92, SD = $291.12) than in 1989-90 (M = $2,058.93, SD = $274.81), t(350) = 20.61, p < .05. Thus, the null hypothesis H₀ 4 was rejected at the .05 level of significance.
There is no significant difference in the PPE for the state in 1989-90 when compared to the PPE in 1993-94.

Table 6

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989-90</td>
<td>176</td>
<td>2058.93</td>
<td>274.808</td>
<td>20.714</td>
</tr>
<tr>
<td>1993-94</td>
<td>176</td>
<td>2893.96</td>
<td>325.118</td>
<td>24.507</td>
</tr>
<tr>
<td>Mean Difference</td>
<td></td>
<td>835.03</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of the statistical analysis of the per-pupil instructional expenditures in 1989-90 to those made in 1993-94 are summarized in Table 6. Based upon the results, the null hypothesis (H₀ 5) of no significant difference was rejected at the .05 level, $t(350) = 26.02$, $p < .05$. School districts reported a greater amount of per-pupil instructional expenditures in 1993-94 ($M = \$2,893.96$, $SD = \$325.12$) than in 1989-90 ($M = \$2,058.93$, $SD = \$274.81$).
**H_0 6:** *There is no significant difference in the PPE for the state in 1991-92 when compared to the PPE in 1993-94.*

Table 7

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>176</td>
<td>2893.96</td>
<td>325.118</td>
<td>24.507</td>
</tr>
</tbody>
</table>

Mean Difference 213.04

**t-test for Equality of Means**

<table>
<thead>
<tr>
<th>Variances</th>
<th>t-value</th>
<th>df</th>
<th>p</th>
<th>SE of Diff</th>
<th>95% CI for Diff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal</td>
<td>6.48</td>
<td>350</td>
<td>.000</td>
<td>32.895</td>
<td>(148.340, 277.735)</td>
</tr>
<tr>
<td>Unequal</td>
<td>6.48</td>
<td>345.81</td>
<td>.000</td>
<td>32.895</td>
<td>(148.337, 277.737)</td>
</tr>
</tbody>
</table>

Table 7 summarizes the findings of the independent t-test conducted on the per-pupil instructional expenditures in 1991-92 and 1993-94. As the results indicate, there was a significant difference in the amount of money Kentucky school districts spent on instructional activities in 1993-94 (M = $2,893.96, SD = $325.12) as compared to instructional expenditures made in 1991-92 (M = $2,680.92, SD = $291.12), \( t(350) = 6.48, p < .05 \). Thus, \( H_0 6 \) was rejected.
Summary of Findings

Per-pupil instructional expenditures (PPE) for the 176 school districts in Kentucky were collected and analyzed in terms of the ranking by instructional per-pupil expenditures of school districts and the amount of money spent on instructional related activities over three school years. The mean instructional PPE increased approximately $600 and $800 from the 1989-90 pre-KERA year to the first and third year of KERA respectively. There is also an indication that the variability between individual district’s PPE increased from the pre-KERA PPE of 1989-90. This implies that there existed a greater diversity in the amount of money being spent on instruction.

There existed a significant relationship between the PPE rank districts held for each pairing of school years. The high correlations (.8528, .7151, and .5879) indicated a strong relationship between the ranks districts held in terms of instructional per-pupil expenditures. The years with the highest correlation between rankings (1991-92 compared with 1993-94) were the two years after the enactment of KERA. Those districts spending the largest amount of money on instruction remained on the top and those spending the least tended to remain at the bottom.

The findings indicate that a significant difference existed in the amount of money spent on instruction. The cost of instruction--salaries, materials, textbooks, supplies, and support services--rose considerably from 1989-90 to 1993-94. KERA appears to have had an impact on the amount of money available for districts. As the
results indicate, districts spent a significant amount of funds on instruction. Perhaps, the intent of the Kentucky Education Reform Act was being satisfied.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The motivating purpose of this study was to investigate the funding of Kentucky school districts by examining the instructional per-pupil expenditures for three years, 1989-90, 1991-92, and 1993-94. The PPE for 1989-90 represents the level of spending that occurred prior to the implementation of the Kentucky Education Reform Act. The other two years represented the districts during the initial years of KERA. Districts during these two years were able to increase the revenue received locally and from the state by raising the local property tax rate.

In this chapter, the results of the study are discussed. A summary is presented that examines the research findings in the context of the research questions and hypotheses. From this summary, some implications of the findings are considered. Finally, recommendations for future research are suggested.

Summary

One hundred seventy-six school districts existed in the years 1989-90, 1991-92, and 1993-94 and reported their revenue and expenditures to the Kentucky Department of Education in their Annual Financial Report. Using this data along with the district’s average daily attendance, the KDE calculated per-pupil revenue and expenditures for each of the major categories include in the state’s chart of accounts.
The 200 codes are identified as those activities which are either directly or indirectly related to student instruction. Such expenditures included salaries, instructional materials and supplies, library books and equipment, instructional aides, and costs related to instruction.

Districts were ranked from low to high for each of the three years using these per-pupil instructional expenditure figures. The 1989-90 PPE rankings provided information regarding the amount of money districts spent on instruction prior to the enactment of the Kentucky Education Reform Act. As presented in Chapter IV, the average PPE in Kentucky was approximately $2,059, with an approximate minimum of $1,500 and maximum of $3,709. This difference of $2,209 between the high and low was, in part, the foundation and argument for the enactment of KERA. The difference in the monies available to districts was, according to the argument, the cause for the inequity in educational opportunities for students. To address this inequity, one of the premises of KERA was a goal of statewide equality in educational funding (Kentucky Department of Education, 1995).

Conclusions

Considering the data examined, there exists a high correlation of the rankings of districts in 1989-90 to the rankings of districts in 1991-92 and 1993-94. Although there was evidence of an increase in PPE over the three years, the overall rankings of districts remained the same from 1989-90 to 1993-94. One possible explanation for
this high correlation in the rankings was that districts increased the amount of monies expended in proportion to the increase in the revenue received. A second possible explanation was that those districts that spent less money for instruction in 1989-90 did not enjoy any greater increase in funding than those districts spending more money.

During the initial years of KERA, per-pupil instructional expenditures increased to an average $2,681 in 1991-92 and then to $2,894 in 1993-94. The new funding formula established by the Kentucky General Assembly not only provided districts with additional state funds, but required the local districts to assess a minimum equivalent assessment rate of 30 cents. Local districts established their local tax bases and for some, their local tax rate well exceeded the 30 cent rate. In 1991-92, the difference between the maximum and minimum PPE in the state increased from the $2,209 in 1989-90 to almost $2,554. A greater disparity existed in the 1993-94 school year when the difference between high and low became $3,135.

One of the expectations of KERA was to decrease the “gap” in educational funding. Investigating funding from the expenditure perspective, the data illustrated that there was an increase in the disparity in reference to instructional expenditures. The distances between the PPE for districts in the state are widening as supported by the increase in the standard deviations for each year’s distribution. Even though there is an increase in funding, one possible explanation for the disparities is that
districts allocated their funds differently among the various expenditure categories. Where one district might focus on instructional materials and salaries, another district might allocate money to renovate out-dated buildings.

The data examined provides support to the belief that districts are spending more money on instructional related activities. Using the 1989-90 PPE as a basis, the 1991-92 and 1993-94 per-pupil instructional expenditures showed a significant increase in monies spent on instruction. This study did not determine what percentage of increases in expenditures had occurred in areas such as transportation, construction, building maintenance, or debt retirement.

The increase in expenditures for instructional activities may be assumed to provide a positive impact to student achievement. One assumption of the suit filed by the Council for Better Education was that money was related to student achievement. This input-output relationship has been a source of research by such individuals as Rossmiller (1983), Childs (1985), Brock (1986), Gordon (1986), Arnold (1992), Perkins (1992), and Picone (1993). There has not been an agreement, however, on whether there is a direct relationship between expenditures and student academic performance.
Recommendation

The data, results and implications raised from this study suggest several areas for further research. Thus, the following recommendations are made for further inquiry:

1. Given that this study focused only on per-pupil instructional expenditures for the school districts in Kentucky, it is recommended that a study be undertaken to investigate areas of expenditures other than instructional. Additionally, an investigation of the changes that have occurred in regard to revenue received by Kentucky's school districts is needed.

2. It is recommended that a study be undertaken that would investigate the possible relationship between expenditures and student achievement for Kentucky school districts since the enactment of the Kentucky Education Reform Act.

3. The enactment of KERA brought a new public education funding formula to Kentucky. It is recommended that a study be conducted that would examine the effect of this funding formula and its impact upon the educational offerings and programs in the public school sector in greater details.

4. It is recommended that a longitudinal study be conducted that would examine the instructional expenditures in Kentucky for years beyond 1993-94. This study only used expenditure information for the initial years of KERA. By
conducted a longitudinal study, the results of such a project would provide important insight to the instructional expenditures occurring in Kentucky for a greater number of years.

5. It is recommended that a study be conducted that would investigate the levels of expenditure that occur within districts. An examination of expenditures at the elementary and secondary levels will allow for comparing how districts are utilizing resources for instructional activities.
REFERENCES


Gordon, N. B. J. (1986). Total per pupil expenditures, local per pupil expenditures, and pupil performance on the Georgia Basic Skills Tests (Doctoral


University of Kentucky / University of Louisville Joint Center for the Study of Educational Policy. (1994, December). *A review of research on the Kentucky Education Reform Act (KERA)*. Frankfort, KY: The Kentucky Institution for Education Research.