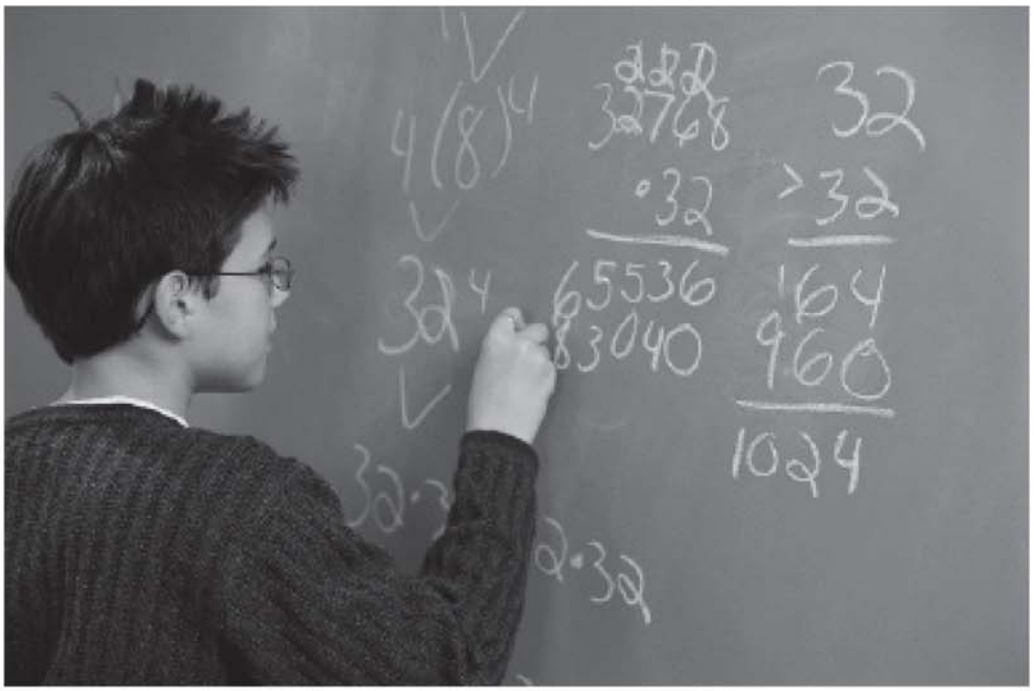
Indicators of Efficiency and Effectiveness in Elementary and Secondary Education Spending



Research Report No. 338

Revised June 25, 2013

Legislative Research Commission
Office of Education Accountability

Prepared by
Marcia Ford Seiler, Director;
Jo Ann Ewalt, Ph.D.; John T. Jones, Ph.D.;
Brenda Landy, Sabrina Olds and Pam Young

Indicators of Efficiency and Effectiveness in Elementary and Secondary Education Spending

Project Staff

Marcia Ford Seiler, Director
Jo Ann G. Ewalt, Ph.D.
John T. Jones, Ph.D.
Brenda Landy
Sabrina Olds
Pam Young

Research Report No. 338
(Revised June 25, 2013)

Legislative Research Commission
Frankfort, Kentucky
lrc.ky.gov

Accepted December 5, 2006, by the
Education Assessment and Accountability Review Subcommittee

Paid for with state funds. Available in alternative form by request.

Foreword

Through budget language, the General Assembly directed the Office of Education Accountability to study the allocation of primary and secondary education funding in Kentucky and to conduct an inventory of indicators that could be used to evaluate school districts' efficient and effective use of funding. This report reviews national and state efforts to study and rate education efficiency and effectiveness, and summarizes Kentucky education expenditure data. It discusses reliability and validity concerns related to these data and estimates the fiscal impact of selected data integrity problems. The report provides a compendium of financial and academic indicators and demographic variables that are commonly used to measure school and district efficiency and effectiveness, and discusses the accuracy of these measures and ways in which the indicators may be incorporated into statistical models of efficiency. Five models that are representative of those commonly found in education research are described briefly.

The authors of the report would like to acknowledge the assistance of staff in the Kentucky Department of Education's Division of School Finance and Division of Budgets for assistance. Legislative Research Commission colleagues from the Program Review and Investigations Committee and the Staff Economists Office also were very helpful.

Robert Sherman
Director

Legislative Research Commission
Frankfort, Kentucky
January 8, 2007

Contents

List of Tables

List of Figures

Summary

Through budget language, the 2005 General Assembly directed the Office of Education Accountability (OEA) to study the allocation of primary and secondary education funding in Kentucky and to conduct an inventory and assessment of indicators that could be used to evaluate school districts' efficient and effective use of funding.

Chapter 1: Defining and Analyzing Education Efficiency and Effectiveness

The first chapter of the report reviews national and state efforts to study school and school district efficiency and effectiveness. Definitions of efficiency and effectiveness, and instructional and noninstructional spending are presented. Several efforts to rank states on measures of performance and efficiency are reviewed.

Researchers are divided regarding whether and how spending affects educational outcomes. They also disagree about the best ways to measure education inputs and performance outcomes. Some argue that schools are operated inefficiently and that there is little evidence that increased funding improves education. Others assert that targeted increases in funding in areas such as smaller class size, teacher quality, and general school improvements enhance student performance. Despite this lack of consensus about the efficiency and effectiveness of education spending, the pressures of the No Child Left Behind Act and of state high-stakes accountability requirements have led to an increasing focus on how education dollars are being spent. The primary research question underlying this emphasis on efficiency and effectiveness is whether local educational systems are accomplishing the purposes for which they were created with the least possible consumption of public resources.

Most studies define efficiency as the maximum performance for any given level of resources. The general definition of effectiveness is the ability to achieve stated education goals. The need to link the analysis of effectiveness to expenditures is a major focus of this chapter. When school or district effectiveness is examined relative to some outcome of interest but expenditure levels related to the outcome are not examined, it is not possible to know whether the schools could have performed at as high a level with fewer resources. Without an explicit link between resources and outcomes, it is also impossible to know if it would be cost effective to increase spending in order to achieve even higher performance levels.

The National Center on Education Statistics (NCES) is the primary federal entity for collecting, analyzing, and reporting data related to education in the United States. NCES is a branch of the Institute of Education Sciences in the U.S. Department of Education (USDOE). Through the work of NCES, USDOE collects annual data—known as the Common Core of Data (CCD)—on public elementary and secondary schools. The CCD consists of five state surveys that provide fiscal and nonfiscal information about schools and districts. The fiscal data are categorized according to specific fund, object, function, and program codes defined in the NCES financial accounting manual. KDE uses the NCES accounting system but in some cases modifies it for specific state uses.

NCES school expenditure reports are based on data supplied by the states for both total and current spending. Current expenditures exclude capital outlay, debt service, and programs outside the scope of elementary and secondary education, such as adult education, community colleges, and community services. Current expenditures are reported within three spending categories: instruction, instructional support, and noninstruction.

Nationally, teachers' salaries made up 71 percent of instructional expenditures in 2002-2003. If benefits are included, teachers' compensation accounts for over 90 percent of instructional expenditures. In Kentucky, teachers' salaries comprised 75 percent of instructional spending for 2002-2003, and salaries and benefits combined were 93 percent of the instructional expenditure category.

Instructional support services consist of the following support categories: student support; instructional staff support; district and school administrative support; business support; plant operations and maintenance; and student transportation. There are critics who claim that the distinction between spending for instruction and instructional support creates confusion concerning how expenditures should be coded. Resources housed within the classroom are generally considered instructional, but the same resources housed outside the classroom are classified as instructional support. Noninstructional resources are used primarily for food service and may include resources for enterprises that generate revenue, such as bookstores and interscholastic athletics.

Compared with all other states, Kentucky ranked 42nd on instructional spending in 2003-2004. Kentucky's per-pupil current expenditures for that year were $6,888, which placed the state seventh in spending among surrounding states.

Chapter 2: Kentucky Education Expenditures

Chapter 2 summarizes Kentucky education expenditure data and reports on spending over time within various components of instruction and noninstructional functions. Reliability and validity concerns related to these data are a major focus of this section.

The analysis includes an examination of fiscal resource allocation and staffing patterns to see if there are significant differences in spending or staffing based on varying district characteristics such as wealth, poverty, size, geographic location, and district-level academic performance. These simple analyses between spending and staffing and district characteristics are intended to show the variations that exist among school districts. The analyses address questions about how much and where resources are being allocated. However, it is important to note that the analyses do not explain why these relationships occur, and they do not measure efficiency. Understanding why the relationships exist and how they relate to efficient and effective use of resources requires the use of more precise models of efficiency, which are described in Chapter 3.

A mix of local, state, and federal funds pays for the provision of elementary and secondary education. In fiscal year 2005, state funds accounted for 57 percent of

Kentucky's total pre-K-12 education revenue, while local and federal revenue sources were 31 percent and 12 percent, respectively. At the national level, states provide a smaller share of total education dollars than in Kentucky—about 47 percent of total elementary and secondary education funding—while the local share is about 44 percent. Federal funding accounts for about 9 percent, on average, of pre-K-12 education revenue across all states.

From FY 1990 to FY 2005, appropriations for elementary and secondary education have grown 109 percent in nominal dollars, from $1.5 billion to $3 billion. In inflation-adjusted terms, appropriations have grown by 39 percent from FY 1990 to FY 2005, to $2 billion in 1990 constant dollars. During this period, inflation rose by 51 percent. While this discussion reflects percent changes in state appropriations, total pre-K-12 education revenue grew by 129 percent in nominal dollars, from $2 billion in FY 1990 to $4.6 billion in FY 2005. In constant 1990 dollars, total education revenue grew 50 percent to $3 billion.

Statewide student enrollment—measured as end-of-year average daily attendance—has remained relatively constant over the 15-year period. Student enrollment was 569,454 in FY 1990 and grew to 574,292 in FY 2005. It is important to note, however, that state average enrollment figures mask important variations at the district level. Statewide, current spending on instruction accounted for about 60 percent of all current expenditures from FY 2000 through FY 2005, with instructional support services and noninstruction accounting for about 34 percent and 6 percent, respectively. In FY 2005, spending on instruction was 60 percent of current expenditures.

Operations and maintenance costs account for the largest share of instructional support expenditures—26 percent—while staff support, school administration, and student transportation each consume between 16 and 17 percent of instructional support dollars. Student support services are 12 percent, while general administration (which includes both districtwide and central office support) and other nonspecified spending (which includes business support) account for between 6 and 7 percent of spending for instructional support services.

According to the U.S. Census, on average, states spend a bit more on student support compared to Kentucky: about 15 percent compared to 12 percent. They also spend less on instructional staff support: 14 percent compared to 17 percent. Kentucky's school administration costs are in line with the national average, as are general administrative costs. Student transportation costs and other, nonspecified costs in the Commonwealth are about 4 percent higher than the national average.

Within the primary expenditure categories of instruction, instructional support, and noninstruction, education analysts generally track current spending for salaries, benefits, purchased services, supplies, and other spending. In FY 2005, salaries and benefits were 72 percent and 21 percent, respectively, of current expenditures in Kentucky. There is considerable variation among the districts in the amount spent for these functions, which

demonstrates that there is a certain level of discretion at the local level with regard to decisions about how fiscal resources are spent.

To analyze further the patterns of resource allocation among the districts, the report examines spending within five categories of district characteristics. These characteristics are location, size, poverty, wealth, and student performance. Following this analysis, staffing and teacher pay are also examined using the characteristics. The analysis shows that spending and staffing patterns among districts are related to district characteristics. However, the research does not show a cause-and-effect link but simply addresses questions about resource allocations that may be appropriate to study in more detail. Among the patterns in spending and staffing based on district characteristics are the following findings:

- Districts with lower CATS accountability index scores spend more than do those with higher scores.
- While districts with the greatest property wealth spend more, on average, than other districts, the lowest-wealth districts show the next-largest per-pupil spending.
- Districts with high levels of poverty, as measured by the percent of student enrollment eligible for free and reduced-price lunches, spend the most per pupil, while districts with the lowest poverty levels spend the least.
- Districts with lower CATS scores and districts with higher levels of poverty spend less for teachers of comparable rank and experience.
- Districts with high poverty levels have fewer Rank I teachers (those teachers with the most postbaccalaureate education) than other districts.
- Smaller districts and districts with the lowest CATS index scores have more Rank III teachers (those teachers with the least experience and education) than larger districts and districts with higher performance scores.

The final section of Chapter 2 reviews data integrity concerns related to Kentucky's elementary and secondary education data. There is a vast body of research about the methods and difficulties of measuring efficiency and effectiveness, and there is little consensus regarding the issue of whether spending is directly related to student performance. However, there is agreement that unless the reliability and validity of expenditure data is of very high quality, it is not possible to study efficiency and effectiveness with the precision needed to make high-stakes policy decisions. For that reason, this report focuses extensively on the quality of Kentucky's education expenditure data.

Staff found a number of areas in which data discrepancies and coding problems threaten the reliability and validity of expenditure data. These involve the following issues:

1. **Federal coding instructions for the financial survey.** NCES collects revenue and expenditure data from state education agencies. NCES provides instructions to states and local school districts regarding the proper coding of various

expenditure activities. OEA noted at least five areas in which NCES's coding directives are in error.

2. **State-level expenditure coding issues.** Staff identified a number of coding practices that may reduce the accuracy and consistency of education finance reporting in the state. Appendix E of the report provides an extensive list of these areas of concern. In general, the coding practices fall within the following financial reporting areas: spending related to school and district Comprehensive Improvement Plans, spending for instructional programs using so-called "higher level" codes that make it impossible to evaluate the effectiveness of these programs because specific spending purposes are not reported, spending that is not tied to any specific educational program, and spending reported under the wrong function category: for example, reporting costs under instruction when they belong in the noninstruction function.

3. **General expenditure reporting concerns.** Staff could not conduct data integrity reviews for expenditures other than spending tied to federal and state grants. In particular, it was not possible to analyze spending from districts' general fund, which is where expenditures made with Support Education Excellence in Kentucky funds are recorded. Such a review requires the ability to examine lower-level function codes. Currently, higher-level codes are reported to the state, and these codes offer less precise information.

Based on OEA's review of districts' Annual Financial Reports and a corresponding review of NCES and KDE coding instructions, staff found that overall, current expenditures from FY 2001 to FY 2005 were overstated by between 1.3 to 1.5 percent. Spending for instruction was overstated by between 1.3 and 2.2 percent. This analysis is based on a review of a small portion of district expenditures—spending for grant programs—and it is possible that other spending categories suffer from data integrity problems as well.

Chapter 3: Indicators for Measuring Efficiency and Effectiveness

Chapter 3 presents an inventory of financial and academic indicators and demographic variables that may be used to measure school and school district efficiency and effectiveness. The chapter includes a discussion of the reliability and validity of the measures, the ways in which the indicators are used, and the availability of data. The inventory contains 72 variables or types of variables that apply to efficiency and effectiveness. The chapter concludes with a brief review of the strengths and weaknesses of several modeling strategies that researchers have used to study education efficiency.

An education indicator is a measure of the current status of, or change in, an educational system with regard to its goals. Examples include test scores, graduation rates, and teacher retention rates. Indicators may be a single measure at one point in time, an average of measures at several points in time, or a combination of different but related measures, such as the CATS Accountability Index.

Studies of the efficiency of the educational process can provide very different results—even for equally efficient schools—depending upon the types of indicators used. NCES established a cooperative to help produce and maintain comparable and uniform education data. This group produced a compilation of indicators and best practices, which are discussed in Chapter 3.

The phases of the education process for which indicators are needed include inputs, processes, and outputs. Inputs include fiscal and other resources, teacher quality, student background, parent characteristics, and community norms. Processes include a) organizational characteristics of schooling at the national, state, district, and school levels; and b) instructional characteristics of schooling (curriculum quality and teaching quality). Outputs include achievement, participation, attitudes, and aspirations.

To assess the multifaceted concepts of efficiency and effectiveness of education, measures must take into account factors that impact outcomes but that are relatively outside of educators' control. In addition, analyzing why some organizations are more efficient than others requires indicators of the inputs purchased with education dollars such as facilities and teachers; and the processes, policies, and programs that implement teaching and learning. Appendix F lists these indicators, provides data sources, indicates how they may be used, and reviews reliability and validity concerns.

A review of the education research identifies at least six characteristics that are generally viewed as making important contributions to effective measurement of efficiency and effectiveness, and that are incorporated in many efficiency models. These characteristics include the use of student-level data, models that account for the nested nature of data (for example, students within classrooms, within schools, and within districts), models that reflect changes over time and improvements and changes in resources, and models that account for regional variations and for complicated relationships between student performance and school resources.

Student-level longitudinal data are best for efficiency studies. These data match each student’s educational outcomes to the student’s teacher and school characteristics, family characteristics, and community characteristics. In addition, the data are recorded consistently on an annual or semiannual basis. In the absence of these data, efficiency studies often must rely on school-level or district-level data, which may reduce the precision of models.

The final section of Chapter 3 reviews models that use indicators in combination to gauge efficiency. An efficiency model utilizes data collected at the school and district level to calculate statistics on how effective districts and schools are at reaching their educational goals. There are numerous models for gauging efficiency; the five models described briefly in Chapter 3 are representative of the most commonly used methods in education research.

The major findings of this report are that education research has identified the key indicators related to school and district efficiency and effectiveness. The research

provides examples of ways in which these indicators can be used in models that estimate efficiency and effectiveness. However, the report also details a number of coding discrepancies at the federal, state, and local level involving education finance data. The study found that it is possible to measure efficiency and effectiveness using data currently available in the state and employing analytical methods reviewed in the report. However, in order to achieve precise measures that can assist districts in improving efficiency and effectiveness, the reliability and validity of Kentucky's education finance data first must be improved.

Chapter 1

Defining and Analyzing Education Efficiency and Effectiveness

Introduction

School finance has usually focused on the equitable distribution of resources, but more recently, attention has been directed to how efficiently schools and school districts are using the funds they receive.

The study of school finance usually has focused on how educational resources are distributed, but more recently attention has been directed to the question of how efficiently schools and school districts use the funds they receive. The national debate regarding school efficiency revolves around the question of how effective school districts are in using their resources to produce high-level educational outcomes such as test scores and retention and graduation rates, and measures of students' preparation for college or the workplace.

Researchers are divided regarding whether and how spending impacts educational outcomes and also disagree about the best ways to measure education inputs and performance outcomes. Education expert Eric Hanushek has argued that schools are operated inefficiently, and he finds little evidence that increased funding improves education ("The Economics" and "The Failure"). Other studies support the idea that targeted increases in funding in areas such as smaller class size (Krueger "Understanding" and "Economic"), teacher quality (Rivkin et al.), and general school improvements (Card and Krueger) enhance student performance.

Despite the lack of consensus about the efficiency and effectiveness of spending on education, growing expectations of the No Child Left Behind Act and of state performance accountability requirements have led to an increasing focus nationwide on how education dollars are being spent. The primary research question underlying this emphasis is whether local educational systems are accomplishing the purposes for which they were created with the least possible consumption of public resources.

A proposal sponsored by the Washington, DC-based organization First Class Education that would require school districts to spend at least 65 percent of their budgets on classroom instruction is being promoted across the country (SchoolMatters. *The Issues and Implications* 1). This funding plan, which has been dubbed the 65 Percent Solution, is reviewed later in the report. The interest it has

elicited among state lawmakers and the education community is evidence of a growing concern for improving efficiency and cost-effectiveness in education. Most education finance experts agree that in order to address efficiency concerns, more must be known about how schools and school districts use the resources currently available to them (Picus. *How Schools* and *In Search*). The efficiency of resource allocations is generally examined through research models that link expenditure levels to education performance indicators.

The National Center for Education Statistics (NCES) is the primary federal entity for the collection, analysis, and reporting of education data. Educational expenditures are generally analyzed within the categories of instruction, instructional support services, and noninstruction.

The National Center for Education Statistics (NCES) reports education expenditures within the spending categories of instruction, instructional support services, and noninstruction. NCES is a part of the U.S. Department of Education and serves as the primary federal entity for collecting, analyzing, and reporting education data.

The Kentucky Department of Education (KDE) Division of School Finance provides support and guidance on funding, budgeting, accounting, and financial reporting. However, at this time there is no overall fiscal management system designed to identify, monitor, or assess the impact of spending patterns at the district and school level. Similarly, Kentucky's high stakes accountability system holds schools and school districts accountable based on students' performance on various types of assessments and relevant nonacademic measures, but it does not link performance to school or district spending.

The Kentucky Department of Education has developed specific performance standards and indicators that it links with high-performing schools, but no attempt is made to analyze the relationship between these indicators and funding levels or patterns.

KDE's Office of Leadership and School Improvement uses a system of standards and indicators that KDE links with high-performing schools (Commonwealth of KY. Department. *Standards*). When KDE audits schools that fail to meet predetermined achievement goals for each biennium, it uses adherence to these standards and indicators as a measure of the schools' preparedness for improvement. The document lists goals, objectives, and activities organized around three categories: academic performance, learning environment, and efficiency. KDE compares the adherence to these standards in high-performing schools to that of low-performing schools and reports "variance points," which it defines as statistically significant differences between high-performing and low-performing schools in the use of specific indicators. However, no attempt is made to link these indicators to funding levels or patterns.

Description of This Study

The Office of Education Accountability was directed to study the allocation of education funding and to conduct an inventory and assessment of indicators of efficiency and effectiveness.

Through budget language, the 2005 General Assembly directed the Office of Education Accountability (OEA) to study the allocation of primary and secondary education funding in Kentucky and to conduct an inventory and assessment of indicators that could be used to evaluate school districts' efficient and effective use of funding. The inventory of indicators includes financial and academic measures and demographic data that relate to—and could be used to analyze—efficiency and effectiveness at both the school district and the individual school level.

How the Study Was Conducted

In October 2005, the Education Accountability and Assessment Review Subcommittee approved OEA's study plan for reviewing education funding and compiling an inventory of efficiency and effectiveness indicators.

National and state studies of school efficiency were reviewed in order to establish definitions of efficiency and effectiveness and to study the indicators commonly used in such studies.

In conducting the study, staff reviewed published reports examining education finance and performance in order to establish commonly accepted definitions and methods of analyzing efficiency and effectiveness. These studies, which included 50 state analyses as well as efficiency reports within single states, also provided information about indicators that are commonly used to measure efficiency and effectiveness. Staff also examined state efforts to define and analyze efficiency. The review included an analysis of several efforts by national organizations to rank states on various measures of spending and performance.

Expenditures are reported for instruction, instructional support services, and noninstruction.

Using KDE and school district data reporting education expenditures in Kentucky, staff examined the level of expenditures over time for various spending categories within instruction, instructional support services, and noninstruction.

Organization of the Report

Chapter 1 reports on national and state efforts to study school and school district efficiency.

Chapter 1 reports on national and state efforts to study school and school district efficiency. Definitions of efficiency and effectiveness, and instructional and noninstruction spending are presented. Several efforts to rank states on measures of performance and efficiency are reviewed.

Chapter 2 summarizes Kentucky education expenditure data and reports on spending over time.

Chapter 2 summarizes Kentucky education expenditure data and reports on spending over time within various components of

instruction and noninstructional functions. Reliability and validity concerns related to these data are a major focus of this section.

Chapter 3 presents an inventory of financial and academic indicators and demographic variables that may be used to measure school and school district efficiency and effectiveness.

Chapter 3 presents an inventory of financial and academic indicators and demographic variables that may be used to measure school and school district efficiency and effectiveness. The section includes a discussion of the reliability and validity of the measures, the ways in which the indicators are used, and the availability of the data. The chapter concludes with a brief discussion of representative models of education efficiency and effectiveness commonly used in education research. These models provide examples of the analyses that could be conducted with currently available data.

Analyzing School Efficiency and Effectiveness

The U.S. Department of Education expressed the importance of finding better ways to measure the efficiency of education expenditures in a report summarizing the policy areas in which lawmakers, practitioners, and taxpayers have indicated the need for improved research and analysis. The department's research office, the National Institute on Education Governance, Finance, Policymaking and Management, wrote: "In an era of limited resources and wavering citizen confidence in public education, policymakers and taxpayers are asking to see demonstrable returns on their education investments. They want assurances that schools are using resources efficiently to increase student achievement. Consequently, both policymakers and education leaders want sound information that will help them 'budget for results.' They want data that they can use to compare the quality and cost effectiveness of various programs and expenditures" (U.S. Dept. of Ed. Nat'l Institute. Office of Ed. Research. *Meeting the Information* 7).

This study addresses major policy questions identified by the Consortium for Policy Research in Education regarding the efficiency of education spending.

The Consortium for Policy Research in Education, a federally funded education research initiative, has been conducting studies on education finance since the early 1990s.[1] An article summarizing major policy issues regarding the sources and uses of education funding poses the following guiding questions about the efficiency of education spending. These questions provide a framework for defining and analyzing education efficiency.

[1] The Consortium for Policy Research in Education is a group of education researchers and institutes from the University of Pennsylvania, Harvard University, Stanford University, the University of Michigan, and the University of Wisconsin-Madison. It was founded in 1989 and receives major funding from the U.S. Department of Education's Institute of Education Sciences.

1. What are the sources of education resources and how have they changed over time?
2. How much is spent per pupil on education and how has that changed over time?
3. How much do teachers make and how has that changed over time?
4. How much of the education dollar is spent on instruction, administration, and other services?
5. How much is spent on administrative personnel?
6. How do patterns of resource use vary between high- and low-spending school districts?
7. How much of the education dollar is spent on special education?
8. How do districts that maintain higher levels of student achievement use their dollars (Odden et al.)?

In a similar attempt to describe the issues and data requirements of what he calls "modern" education finance, education expert James Guthrie describes the need for more detailed information about expenditures, outcomes, and demographic characteristics that should be included in analyses of education efficiency and effectiveness. He also indicates that in order to answer new policy questions, researchers and policy makers need to be much more effective at linking efficiency measures with desired educational outcomes (11).

Definitions of Efficiency and Effectiveness

Efficiency is defined as obtaining the maximum possible performance for a given expenditure of resources.

Most studies define efficiency as "obtaining the maximum possible performance for any given expenditure of resources" (Hanushek "Can Equity" 64). School finance research attempts to study two things: the feasibility of obtaining better performance with existing resources; and the possible improvements to performance that could be made with changes in expenditure levels.

Effectiveness is the ability to achieve stated goals. However, there are problems with a simple definition of effectiveness. Schools and districts may achieve some goals and not others. Schools may also be more effective for some students and for some curricular areas. They may also show varying levels of effectiveness depending upon the time period examined.

The general definition of effectiveness is the ability to achieve stated education goals (Ninan 1; Scheerens 2). However, most researchers contend that school effectiveness is a multifaceted concept, which makes its definition and subsequent analysis difficult. For example, a specific definition of effectiveness may depend upon the education outcome being examined. Schools that improve test scores from year to year may be considered effective, but schools or school districts may improve scores on one set of tests but fail to improve on other tests or on other indicators such as student retention or percent of students taking advanced placement courses.

Secondly, effectiveness studies have illustrated that schools can be more effective for some students than for others and that their effectiveness can vary across curriculum areas and over time (Wyatt 2).

Because there are multiple components within the concept of school effectiveness, the appropriate definition is a policy issue.

The impact of these issues has a direct bearing on the ways in which policy makers consider improvements to school effectiveness. Research can assist in describing the components included and the issues that should be considered in attempting to measure school effectiveness. However, because there are multiple—and, at times, competing—aspects to school effectiveness, the appropriate definition is a policy question and not a matter that can be determined through research.

Unless effectiveness is linked to expenditures, it is impossible to know whether the same or better performance could have been achieved with lower expenditures.

In addition, when school or district effectiveness is examined relative to some outcome of interest but expenditure levels related to the outcome are not examined, it is not possible to know whether the schools could have performed at as high a level with fewer resources. Without an explicit link between resources and outcomes, it is also impossible to know if it would be cost effective to increase spending in order to achieve even higher performance levels.

For example, the Red Bank, New Jersey, public school district defines an effective school as follows: at least 95 percent of all students have earned a proficient score on state assessment tests; no significant differences are found based on socioeconomic status, gender, race, special needs, or limited English proficiency; and noncognitive indicators such as dropout rates are met at the proficient level. In addition, specific administrative arrangements believed to relate to effectiveness are met; and all of the conditions defined as "effective" are maintained for at least three years (Red Bank Public Schools 10).

Since no direct link is made to resource expenditures in the Red Bank school district, policy makers have no quantifiable method of determining which schools are demonstrating the best performance possible for their level of spending.

Cost-effectiveness analysis best illustrates the relationship between efficiency and effectiveness. This analysis addresses the question "Should we support this or that?"

A type of education finance research known as cost-effectiveness analysis best illustrates the relationship between efficiency and effectiveness. Cost-effectiveness analysis addresses the question "Should we support this or that?" These studies look at alternative methods of accomplishing specific education outcomes and attempt to identify the program options that are most successful at the least possible cost (Rice 26).

School efficiency is usually linked to effectiveness, and the combined emphasis is called productivity research.

In a broader sense, when the study of school efficiency is linked to effectiveness, the combined emphasis is called productivity research. Productivity analysis examines whether additional resources impact student performance and whether spending on some programs is more effective than allocating resources to other programs. It also attempts to decipher the types of students that may benefit from different resource allocations (Grissmer).

Methods of analyzing educational productivity and specific indicators that can be used in these analyses are presented in Chapter 3. However, the first step in these processes is to examine the types of expenditures that are included in school and district spending for instruction, instructional support, and noninstruction. Policy questions about education resources and student performance can be addressed only by an accurate accounting of how much is being spent and for what purpose.

Analyzing School and School District Expenditures

NCES is the primary federal entity for collecting, analyzing, and reporting data related to education in the United States.

The National Center on Education Statistics is the primary federal entity for collecting, analyzing, and reporting data related to education in the United States. NCES is a branch of the Institute of Education Sciences in the U.S. Department of Education. It is authorized by Congress to collect data through the Education Sciences Reform Act of 2002 (P.L. 107-279), 20 U.S.C. 9543. The topics and sources of data collected by NCES are discussed here and listed in Appendix A.

NCES conducts an annual data collection, known as the Common Core of Data (CCD), on all public elementary and secondary schools. CCD includes both fiscal and nonfiscal data.

Through the work of NCES, the U.S. Department of Education collects annual data—known as the Common Core of Data (CCD)—on public elementary and secondary schools. This data collection effort began with the 1981-1982 school year.

CCD consists of five state surveys designed to provide fiscal and nonfiscal information about schools and school districts. Nonfiscal data are collected through the following surveys.

School Universe Survey. Information includes school location and type, enrollment by grade and student characteristics, and the number of classroom teachers for all public elementary and secondary schools in operation during a school year.

Local Education Agency (School District) Universe. Information for all school districts includes contact information, location and type, current number of students, and number of high school graduates and completers in the previous year. High

school completers are defined as students who withdraw from school but obtain a diploma or its equivalent through other means.

State Nonfiscal Survey. Information on all students and staff is aggregated to the state level. The data include number of students by grade level, full-time equivalent staff by major employment category, and high school graduates and completers in the previous year.

NCES collects public education finance data through the National Public Education Financial Survey (NPEFS) and the School District Financial Survey.

NCES collects public education fiscal data through the National Public Education Financial Survey and the School District Financial Survey.

National Public Education Financial Survey (NPEFS). Detailed data by school district include revenues by source (local, state, and federal); and expenditures by function (instruction, instructional support services, and noninstruction) and by subfunctions such as administration and student transportation.

School District Financial Survey. This survey is part of the U.S. Census Bureau's Annual Survey of Local Governments. NCES supports this collection effort to ensure that all districts are included in each year's collection. The data items are similar to those collected in the NPEFS but are aggregated to the state level.

The data collected from the NPEFS are used in the formula for allocating Title I funds for disadvantaged students and other federal grants to school districts. NCES collects data annually from state education agencies through NPEFS, using account codes and definitions established to create uniformity in the data and to facilitate cross-state revenue and expenditure comparisons.

Dollars spent to support education are categorized according to specific fund, object, function, and program codes defined in the NCES financial accounting manual. KDE uses the NCES accounting system but in some cases has modified it for specific function, object, and program codes.

Definitions of Instruction and Noninstruction

Current expenditures are reported within three spending categories: instruction, instructional support, and noninstruction. Current spending exclude capital outlay, debt service, and expenses for programs outside elementary and secondary education.

NCES school expenditure reports are based on data supplied by the states for both total and current spending. Current expenditures exclude capital outlay; debt service; and programs outside the scope of elementary and secondary education, such as adult education, community colleges, and community services. Expenditures for items lasting longer than one year, such as computers, are not included in current expenditures. Current expenditures are reported within three spending categories: instruction, instructional support, and noninstruction.

Instructional expenditures include teacher salaries and benefits, purchased services, tuition payments, and supplies. Instruction encompasses activities dealing directly with the interaction between teachers and students.

Instructional Expenditures. Instructional resources encompass more than just teacher salaries. According to NCES, "[i]nstruction encompasses all activities dealing directly with the interaction between teachers and students. Teaching may be provided for students in a school classroom, in another location such as a home or hospital, and in other learning situations such as those involving co-curricular activities. [It] may also be provided through some other approved medium such as television, radio, telephone, and correspondence" (U.S. Dept. of Ed. National Center. *National Public* 50). Instructional expenditures consist of teacher salaries and benefits, purchased services, tuition payments, and supplies.

According to 2002-2003 NCES data, teacher salaries and benefits account for over 90 percent of instructional expenditures.

Nationally, teachers' salaries made up 71 percent of instructional expenditures in 2002-2003. If benefits are included, teachers' compensation accounts for over 90 percent of instructional expenditures. In Kentucky, teachers' salaries comprised 75 percent of instructional spending in 2002-2003, and salaries and benefits combined were 93 percent of the instructional expenditure category (U.S. Dept. of Ed. National Center. "Revenues and Expenditures" 3-11).

Coaching or supervising extracurricular activities, bus supervision, and summer school teaching are considered instructional, as is compensation to teachers on sabbatical leave.

Teacher salaries and benefits are included in instructional expenditures regardless of whether the teacher is permanent, part-time, substitute, or a home- or hospital-based teacher. The category includes classroom assistants, clerks, and graders who assist in the instructional process. Coaching or supervising extracurricular activities, bus supervising, and summer school teaching are considered instructional. Compensation to teachers on sabbatical leave also is counted as an instructional expense.

Administrative salaries and benefits for principals, department chairpersons, school nurses, and librarians are not considered instructional expenditures. Nonteaching personnel involved in duties that teachers also could perform, such as librarians who

teach students about conducting research or guidance counselors who work with students on job-readiness skills, are not considered instructional. This distinction between instructional and noninstructional personnel is, therefore, blurred when personnel provide instruction to students in addition to their noninstructional duties. As another example, department chairs may spend half their time fulfilling administrative duties and the other half teaching classes. In these cases, half of the salary and benefit expenses would be coded to instructional expenditures. However, if schools or districts are unable to prorate expenditures for department chairs who also teach, the full salary and benefits are coded under instruction (U.S. Dept. of Ed. National Center. *Financial Accounting* 121).[2]

While instructional resources are coded to a specific school, the actual service or activity may not necessarily occur at that school. For example, outsourcing for instructional services or purchases for professional services for hospitalized or homebound students is considered an instructional expense, as is tuition paid outside the state to private schools or other local education agencies. These expenditures are further removed from the schools that record the use of the resources.

Expenditures for equipment, supplies, and textbooks used in the classroom are instructional expenses.

In addition to teacher compensation and tuition to other institutions within or outside the state, some capital resources used in the education process also are instructional expenditures. The use of equipment such as audiovisual supplies; textbook purchase, rental, or repair; workbooks; and generally available periodicals are instructional resources. These resources account for less than 5 percent of instructional expenditures (U.S. Dept. of Ed. National Center. "Revenues and Expenditures" 3).

Expenses for cocurricular activities and athletic programs designed to supplement regular instruction, such as band, choir, speech, and debate programs, and for groups such as Future Farmers of America are considered instructional expenditures.

Instructional resources are not confined to classroom activities. Certain student body activities are instructional. Student body activities refer to school-sponsored programs such as cocurricular activities and athletic programs that supplement regular instruction. Cocurricular activities are carried out under the guidance and supervision of local education agency staff and are designed to enhance student motivation and skill development (U.S. Dept. of Ed. National Center. *National Public* 51). These activities include band, chorus, choir, speech, debate, chess club, and senior prom, and groups such as Future Farmers of America. However, if the activity generates revenue that covers most or all of its own cost,

[2] This also raises questions about the comparability of data across states. Kentucky instructs districts to divide expenditures between instruction and instructional support for chairs who teach.

the activity is classified as an Enterprise Operation, which is a noninstructional classification. Salaries and benefits for athletic coaches, band and choir directors, and others who lead these cocurricular activities are included in instructional expenditures.

Instructional support services are administrative, technical, and logistical resources that facilitate and enhance instruction.

Instructional Support Services. The distinction between instruction and instructional support is blurred by a subcategory of instructional support called 'Instructional Staff Support Services.' Support services are administrative, technical, and logistical in nature. They facilitate and enhance instruction, and can include activities to assist teachers with both the content and process of student learning experiences. These services include operation and maintenance of buildings, school administration, student support services such as nurses, therapists, and guidance counselors, student transportation, instructional staff support such as librarians and instructional specialists, school district administration, business services, research, and data processing. They also include spending for curriculum improvement, library supplies and services, and staff involvement in developing computer-assisted instruction (U.S. Dept. of Ed. National Center. "Revenues and Expenditures" 15).

The similarity between instructional services and instructional support services can lead to confusion concerning how expenditures should be coded. Resources housed within the classroom are generally considered instructional, but the same resources housed outside the classroom are classified as instructional support. For example, a book kept in a classroom is an instructional resource, but if the same book is housed within the library, it is considered instructional support. Another example of overlap involves managing attendance. Although teachers may take roll in their classrooms and their time is counted as instructional, other efforts to monitor and improve attendance are considered instructional support services.

Noninstructional resources are used primarily for food services.

Noninstruction. Noninstructional resources are used primarily for food service, and may include resources for enterprise operations, such as bookstores and interscholastic athletics. Noninstructional expenditures are relatively small, representing less than 5 percent of current educational expenditures in 2002-2003 (U.S. Dept. of Ed. National Center. "Revenues and Expenditures" 8-15).

Instructional Expenditure Levels and Public Policy

As noted earlier, while the debate over how education spending relates to student performance continues in the academic arena, a

national organization called First Class Education has been advancing its proposal to promote state policy requiring that schools use 65 percent of their operating budget on instruction. To date, the policy is state law in Georgia; the Governor of Texas issued an executive order in August 2006 mandating the expenditure level; and the Louisiana legislature has passed legislation directing the state Board of Secondary and Elementary Education to implement the "65 Percent Solution" (First Class Education. *Active States*). Lawmakers in Colorado, Florida, Minnesota, Washington, Arizona, Illinois, and Ohio are pushing the initiative; and Kansas has passed legislation identifying the 65 percent measure as a "policy goal" (SchoolMatters. *The Issues and Implications*).

According to the First Class Education Web site, the 65 percent proposal involves the following implementation guidelines:

- Each school district in a state should spend at least 65 percent of its operating budget on classroom instruction as defined by the National Center for Educational Statistics.
- If a school district is currently spending less than 65 percent on classroom instruction, it would need to increase that amount by 2 percent or more per year until the 65 percent goal is reached.
- If a school district felt special circumstances prevented it from reaching either the 2 percent annual increase or the 65 percent goal, it could ask the state's highest-ranking elected education official for a renewable one-year waiver.
- The state's top education official has the sole authority to reject or to grant in part or in full the district's one-year waiver request.
- State legislatures should determine penalties to encourage compliance with the measure (*FAQs*).

Proponents of the plan to mandate that 65 percent of education spending be earmarked for instruction say the plan would reduce waste and improve student performance. Critics say it would cut important services elsewhere, limit local autonomy, and not improve performance.

Proponents say the 65 percent initiative would increase classroom resources without increasing taxes, reduce wasteful administrative costs by increasing district accountability, and improve student performance through an increased emphasis on classroom activities (SchoolMatters. *The Issues and Implications* 1). Critics say it would not lead to better student performance, would cut important services elsewhere, and would limit local school and district autonomy (Kennedy and Porter).

Data Discrepancy Issues

Part of the controversy over the 65 percent measure stems from the difficulty in defining classroom instruction. While First Class

Education indicates that states should use the NCES definition, the organization also believes that some expenditures not included in instructional spending, such as those for guidance counselors and librarians, are directly related to instruction. In an analysis of the 65 percent proposal, the education evaluation arm of Standard & Poor's (S&P) notes that several states find NCES's definitions of instructional resources too restrictive. They claim that these states would prefer a definition of "classroom instruction" that includes both instructional expenditures and two NCES subcategories of support services: instructional staff support services and pupil support services. S&P supports a definition of instruction that includes both instructional expenditures and instructional staff support services (SchoolMatters. *The Issues and Implications*). S&P's education evaluation services are discussed later in this section.

Questions concerning which expenditures should be considered instruction and instructional support have led to discrepancies in the expenditure data reported by state education agencies.

Questions concerning which expenditures should be considered instruction and instructional support have led to discrepancies in the expenditure data reported by state education agencies. For example, in 1996, NCES found that Texas consistently included elements of support services within its coding of instructional expenditures (U.S. Dept. of Ed. National Center. *Assessment*). More recently, Texas has proposed new coding requirements for compliance under the 65 percent initiative. Costs associated with librarians, regional agencies that provide services across several school districts, and education provided to students in the juvenile justice system would be considered instruction for the 65 percent rule but would not be included as instructional spending by NCES or the Census Bureau (Hoff 23). If more states implement the 65 percent measure, ad hoc coding decisions such as this will make cross-state comparisons of this policy difficult.

It is also likely that coding errors occur at the school level where much of the data are entered initially. NCES acknowledges that errors are inevitable and has issued the following warning concerning the accuracy of its data in a Web site describing data description handbooks: "[D]ue to compromises, as well as subsequent changes in Federal regulations, the definitions and terms used in the handbooks may not correspond to terms and definitions required for reporting under all Federal programs"(U.S. Dept. of Ed. National Center. "NCES History").

Table 1.1 describes the general types of expenditures included in the instruction, instructional support, and noninstruction spending categories and follows current NCES coding guidelines.

Table 1.1
Expenditure Functions for Instruction, Instructional Support, and Noninstruction

Instruction	Instructional Support	Noninstruction
Teachers' salaries and benefits	***Student Support Services***	***Food Service Operations***
Regular instruction	Attendance	Preparing and serving meals or snacks in connection with school activities
Extended school services program	Social work services	
Extended school services transportation	Guidance counselor	
Vocational instruction, work experience	Student records	
Home, hospital, expelled, suspended student instruction	Nursing and health services	
	Physical and occupational therapy	
Board-approved field trips	***Instructional Staff Support Services***	
Athletic instruction and supplies	Program coordination and supervision	
Saturday school	Instructional improvement	
Safe schools instruction and materials	Instructional supervision	
Special education	Disability services administration	
Early childhood education	Gifted and talented coordination	
Gifted and talented instruction	Professional development instruction	
Instructional commodities such as textbooks and classroom supplies	Highly skilled educators	
	Library services	
	Instructional technology	
	Academic competition	
	Lunchroom monitor	
	Volunteer programs	
	District/School Administrative Support	
	School Board administration	
	Tax assessment and collection	
	Superintendent's office	
	Grant writer	
	Principal's office	
	School council activities	
	Business Support Services	
	Finance, payroll, and accounting	
	Operations, purchasing, and warehousing	
	Public information	
	Personnel services	
	Network services, administrative technology	
	Plant Operations and Maintenance	
	Building and grounds operations/maintenance	
	Security operations	
	Maintenance staff development	
	Shop operations	
	Student Transportation	
	Staff salaries and benefits	
	Bus maintenance	
	Transportation staff development	
	Instructional support commodities such as supplies and fuel	

Source: Staff compilation based on the KDE Chart of Accounts.

Comparing State Education Expenditures and Performance Measures

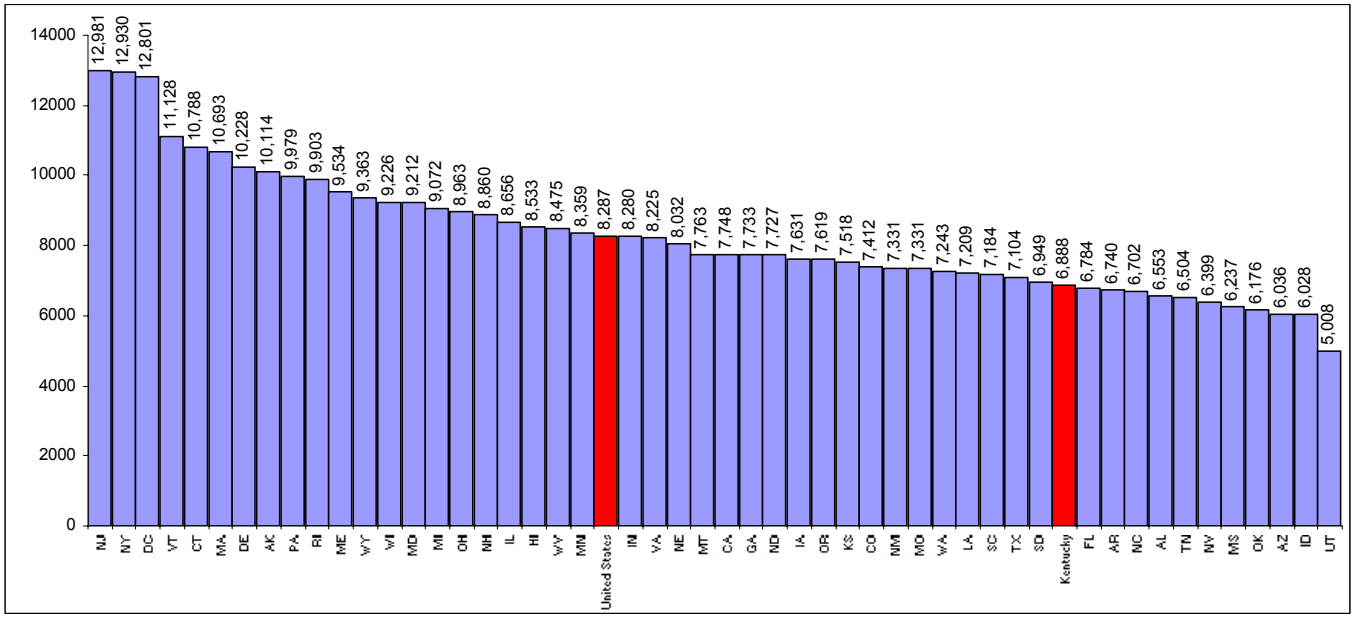
U.S. Government Data Analyses

The most widely used government sources of education statistics include NCES's annual "Revenues and Expenditures for Public Elementary and Secondary Education," and the *Public Education Finances* reports, which are part of the Census Bureau's Annual Survey of Local Government Finances series.

The Census Bureau and NCES produce numerous reports on elementary and secondary education revenue and expenditures. The most widely used include two that are based on surveys discussed on page 8 of this report. The *Public Education Finances* reports (based on the School Districts Financial Survey) are part of the Census Bureau's Annual Survey of Local Government Finances series. NCES's annual "Revenues and Expenditures for Public Elementary and Secondary Education" is based on the NPEFS.

Various independent groups use these reports, combined with assessment data collected by NCES and other sources, to rank states on spending and achievement indicators. Appendix A lists the topics and sources of education data collected by NCES. Figure 1.A reports current expenditures per pupil by state for elementary and secondary education for the 2003-2004 school year. These are the most current data available for all states. The figure reports instruction, instructional support, and noninstruction spending.

Figure 1.A
Current Spending Per Pupil for K-12 Education by State: 2003-2004



Source: U.S. Census Bureau. Annual Survey of Local Governments 2004.

During the 2003-2004 school year, Kentucky's current per-pupil spending was $6,888, or 83 percent of the national average of $8,287.

As Figure 1.A shows, during the 2003-2004 school year, Kentucky's per-pupil current education expenditure was $6,888, or 83 percent of the national average of $8,287. Average per-pupil spending was $9,990 for the 21 states with above-average expenditures. Thirty states' current expenditures were lower than the national average, and for those states, per-pupil current expenditures averaged $7,070. [3]

Four of Kentucky's surrounding states—Ohio, Illinois, West Virginia, and Indiana—had current expenditures at or above the national average in 2003-2004. Virginia, Missouri, Kentucky, and Tennessee had expenditures that were below the national average.

Table 1.2 shows per-pupil current expenditures for Kentucky and surrounding states as a percentage of the 2003-2004 national average. Ohio, Illinois, and West Virginia spent more than the national average, and Indiana's current spending matched average state spending. Kentucky, Missouri, Tennessee, and Virginia spent less per pupil than the national average.

Table 1.2
K-12 Current Per-pupil Expenditures for Kentucky and Surrounding States as a Percent of National Average Spending: 2003-2004

State	Per-pupil Spending	Percent of National Average
Ohio	$8,963	108%
Illinois	$8,656	104%
West Virginia	$8,475	102%
Indiana	$8,280	100%
Virginia	$8,225	99%
Missouri	$7,331	88%
Kentucky	$6,888	83%
Tennessee	$6,504	78%

Source: U.S. Census Bureau. Annual Survey of Local Governments 2004.

Tables 1.3 and 1.4 rank states by various per-pupil spending categories within instruction and instructional support. Table 1.3 shows total per-pupil current expenditures for instructional salaries and benefits in addition to support spending for general administration (board of education and superintendent services) and school administration (expenditures for principal services).

Table 1.4 reports these expenditures in relation to $1,000 in state personal income. This standardized method of comparing states is designed to reflect the states' ability to support education spending.

[3] These data include the District of Columbia.

Table 1.3
States Ranked by Per-pupil Spending 2003-2004

Rank	Instruction						Instructional Support			
	Total[1]		Salaries only		Benefits only		General administration		School administration	
	US	$5,056	US	$3,561	US	$1,035	US	$166	US	$467
1	NY	8,840	NY	6,082	NY	2,063	ND	358	VT	805
2	NJ	7,524	NJ	5,243	MA	1,732	NJ	346	NJ	672
3	VT	6,920	CT	4,896	RI	1,670	PA	313	CT	624
4	CT	6,714	VT	4,768	NJ	1,627	NH	311	AK	590
5	MA	6,669	RI	4,684	WI	1,625	IL	303	DE	588
6	DE	6,300	MA	4,568	WV	1,607	VT	287	RI	583
7	ME	6,270	DE	4,237	DE	1,563	NE	280	NY	577
8	PA	6,049	ME	4,182	ME	1,562	NY	266	MD	552
9	RI	6,048	PA	4,182	IN	1,557	WI	255	MI	552
10	AK	5,821	MD	4,050	VT	1,510	SD	244	HI	540
11	MD	5,711	NH	3,989	CT	1,403	OH	243	ME	532
12	WI	5,644	MN	3,873	MI	1,361	MT	242	WY	526
13	NH	5,588	AK	3,864	MD	1,352	KS	241	CA	520
14	WY	5,568	WY	3,776	PA	1,264	WV	240	NH	517
15	MN	5,444	VA	3,723	WY	1,243	MO	232	OH	513
16	WV	5,197	IL	3,690	NH	1,235	CT	223	CO	490
17	IL	5,195	WI	3,682	OR	1,166	AR	222	OR	489
18	MI	5,182	OH	3,593	AK	1,143	IA	216	VA	482
19	NE	5,163	GA	3,590	OH	1,102	WY	216	MA	480
20	HI	5,139	HI	3,487	IL	1,090	ME	210	WI	478
21	OH	5,105	MI	3,428	MN	1,079	MN	209	IN	469
22	VA	5,041	NE	3,427	NE	1,030	MS	198	IL	469
23	IN	4,977	ND	3,389	GA	1,011	MI	196	GA	466
24	GA	4,922	IA	3,366	HI	1,000	NM	190	WV	458
25	MT	4,752	WV	3,331	IA	987	OK	188	NC	454
26	ND	4,727	TX	3,317	VA	963	KY	179	KS	453
27	CA	4,690	CA	3,276	LA	922	AL	176	NM	452
28	IA	4,689	IN	3,266	CA	919	LA	166	NV	439
29	KS	4,539	MO	3,263	ND	915	IN	161	WA	437
30	OR	4,499	WA	3,194	MT	873	AK	152	MO	434
31	MO	4,433	NC	3,174	NV	865	MA	150	MT	429
32	WA	4,356	MT	3,158	SC	840	RI	145	NE	428
33	LA	4,349	CO	3,146	ID	816	ID	142	PA	426
34	TX	4,286	LA	3,067	NM	811	TN	128	IA	422
35	CO	4,265	KY	3,063	AL	808	VA	124	SC	414
36	SC	4,239	KS	3,061	UT	805	DE	115	FL	402
37	TN	4,216	SC	3,036	KY	802	NC	115	AL	398
38	NC	4,177	TN	2,982	SD	744	TX	113	TX	396
39	SD	4,169	NM	2,966	MO	737	OR	111	KY	387
40	NM	4,149	SD	2,959	WA	732	NV	110	LA	385
41	AR	4,105	AR	2,921	FL	721	CO	104	AR	374
42	KY	4,103	OR	2,896	TN	704	GA	103	ND	367
43	FL	4,015	AL	2,708	KS	703	WA	99	MN	356
44	NV	4,008	ID	2,640	MS	687	SC	90	TN	350
45	AL	3,934	MS	2,635	AR	659	AZ	88	ID	348
46	ID	3,742	FL	2,630	CO	623	MD	85	MS	346
47	MS	3,718	NV	2,627	OK	617	FL	77	SD	336
48	AZ	3,458	AZ	2,568	NC	602	CA	70	OK	334
49	OK	3,423	OK	2,413	AZ	597	HI	60	AZ	313
50	UT	3,187	UT	2,151	TX	528	UT	57	UT	307

[1]Includes amounts not shown separately.

Source: U.S. Census Bureau. Annual Survey of Local Governments 2004

Table 1.4
States Ranked by Relation of Current Spending to $1,000 in State Personal Income 2003-2004

Rank	State	Total[1]	Instruction						Instructional Support			
			Total[1]		Salaries only		Benefits only		General administration		School administration	
	US	$43.68	US	$26.78	US	$18.63	US	$5.42	US	$.87	US	$2.44
1	AK	62.92	VT	37.55	NY	24.88	WV	10.18	ND	2.01	VT	4.10
2	VT	58.96	NY	37.32	VT	24.25	IN	8.76	AR	1.52	AK	3.67
3	NY	54.05	AK	36.21	AK	24.04	WI	8.48	WV	1.52	NM	3.12
4	WV	53.68	ME	35.01	ME	22.56	NY	8.44	NE	1.49	MI	3.04
5	NJ	53.42	WV	32.92	GA	21.81	ME	8.42	MT	1.49	WV	2.90
6	ME	52.62	NJ	31.68	TX	21.74	VT	7.68	IL	1.48	ME	2.87
7	NM	50.63	GA	29.89	WV	21.10	RI	7.51	MS	1.46	GA	2.83
8	WY	50.16	WY	29.83	RI	21.06	MI	7.50	VT	1.46	WY	2.82
9	MI	49.99	RI	29.63	NJ	20.89	AK	7.11	NH	1.42	CA	2.75
10	WI	48.15	WI	29.45	NM	20.48	WY	6.66	PA	1.40	OH	2.70
11	OH	47.73	MT	29.21	WY	20.23	MA	6.53	KS	1.40	SC	2.68
12	MT	47.71	NM	28.65	AR	20.05	UT	6.51	NJ	1.38	NJ	2.68
13	GA	46.97	MI	28.56	SC	19.63	NJ	6.48	SD	1.37	IN	2.64
14	RI	46.96	AR	28.20	MS	19.47	DE	6.30	WI	1.33	KS	2.64
15	SC	46.66	TX	28.10	MT	19.41	OR	6.14	NM	1.31	MT	2.64
16	TX	46.57	IN	27.99	IA	19.27	GA	6.14	OH	1.28	RI	2.62
17	IN	46.57	SC	27.60	WI	19.22	ID	5.94	MO	1.27	HI	2.60
18	AR	46.28	NE	27.54	ID	19.20	OH	5.79	OK	1.27	TX	2.60
19	MS	46.08	MS	27.47	KY	19.06	LA	5.73	IA	1.24	NC	2.59
20	PA	44.90	OH	27.47	LA	19.05	MD	5.69	WY	1.16	OR	2.58
21	LA	44.76	PA	27.25	ND	18.97	PA	5.68	ME	1.13	AR	2.56
22	ID	43.84	ID	27.21	MI	18.89	IA	5.65	KY	1.11	MS	2.56
23	KS	43.71	LA	27.00	OH	18.86	NH	5.64	AL	1.09	ID	2.53
24	IA	43.70	MA	26.96	PA	18.78	NM	5.60	NY	1.09	WI	2.49
25	ND	43.25	NH	26.85	MN	18.50	NE	5.49	MI	1.08	UT	2.48
26	KY	42.86	IA	26.85	IN	18.37	SC	5.43	LA	1.03	AL	2.45
27	NE	42.85	ND	26.46	CT	18.32	MT	5.36	ID	1.03	IA	2.42
28	IL	42.23	KS	26.39	NE	18.28	IL	5.32	MN	1.00	KY	2.41
29	MA	42.12	CT	26.11	NH	18.22	CT	5.25	AK	.95	LA	2.39
30	NH	41.80	MN	26.00	NC	18.10	MN	5.15	IN	.91	MO	2.38
31	OK	41.51	UT	25.74	IL	18.00	ND	5.12	CT	.83	DE	2.37
32	DE	41.47	DE	25.64	MO	17.90	MS	5.07	TX	.74	NV	2.36
33	CT	41.35	KY	25.53	KS	17.79	KY	4.99	TN	.70	NH	2.36
34	CA	41.16	IL	25.35	VA	17.71	AL	4.98	NC	.66	CO	2.36
35	HI	41.10	CA	25.02	UT	17.37	CA	4.85	RI	.65	NY	2.36
36	UT	40.46	HI	24.75	CA	17.30	HI	4.81	GA	.63	CT	2.33
37	OR	40.46	MO	24.32	MA	17.21	NV	4.66	NV	.59	MD	2.32
38	AL	40.42	AL	24.27	DE	17.08	VA	4.58	VA	.59	VA	2.30
39	MO	40.21	MD	24.03	MD	17.05	AR	4.52	OR	.58	IL	2.29
40	MN	39.93	OR	24.03	HI	16.79	SD	4.19	SC	.58	NE	2.28
41	VA	39.14	VA	23.99	AL	16.69	OK	4.15	MA	.57	OK	2.25
42	SD	39.13	NC	23.81	SD	16.66	KS	4.09	AZ	.54	WA	2.22
43	MD	38.77	SD	23.48	TN	16.37	MO	4.04	WA	.50	ND	2.06
44	NC	38.21	TN	23.14	OK	16.21	TN	3.86	CO	.50	FL	2.03
45	AZ	37.10	OK	23.00	WA	16.20	WA	3.71	DE	.46	AZ	1.92
46	WA	36.73	WA	22.09	AZ	15.78	AZ	3.67	UT	.46	TN	1.92
47	CO	35.74	NV	21.57	OR	15.25	FL	3.65	FL	.39	PA	1.91
48	TN	35.70	AZ	21.25	CO	15.15	TX	3.46	CA	.37	SD	1.89
49	NV	34.43	CO	20.58	NV	14.14	NC	3.43	MD	.36	MA	1.81
50	FL	34.36	FL	20.34	FL	13.32	CO	3.00	HI	.29	MN	1.70

[1]Includes amounts not shown separately.
Source: U.S. Census Bureau. Annual Survey of Local Governments 2004

In 2003-2004, Kentucky ranked 42 in per-pupil current spending for instruction, 81 percent of the national average. The Commonwealth ranked 35 in expenditures for teacher salaries, which was 86 percent of the national average.

As shown in Table 1.3, Kentucky ranks 42 in total 2003-2004 per-pupil spending for instruction. Per-pupil expenditures for instruction total $4,103, which is 81 percent of the national average of $5,056. The Commonwealth ranks 35 in salary expenditures—86 percent of the national average—and 37 in benefits. In terms of spending for school boards and superintendent expenses (general administration), Kentucky ranks 26. It ranks 39 in spending for principals (school administration).

Kentucky ranks 26 in total current spending per $1,000 in personal income, and 33 in total current spending for instruction.

Table 1.4 reports the amount of current spending in 2003-2004 for instruction and instructional support per $1,000 in personal income in the states. Kentucky ranks 26 in total current spending per $1,000 in personal income and ranks 33 in total current spending for instruction. Kentucky ranks 19 in instructional spending for teacher salaries; its rank is 33 when benefits alone are examined. While this analysis links education spending to state income, it does not allow for a direct comparison of state spending to states' capacity to support education. This is because total spending levels do not reflect student enrollment or numbers of teachers, schools, or school districts. Nor does it reflect actual state revenues.

Nongovernment Rankings of State Spending and Performance

A number of organizations use Census Bureau and NCES data on state revenues and expenditures, along with various measures of educational outcomes such as test scores and graduation and retention rates, to produce state rankings of educational performance. State rankings are controversial because the evaluations depend upon the outcomes examined, the statistical methods used, and the ways in which measures are standardized so states' performance can be compared. The same state can perform well on one ranking and poorly in another.

Each year a number of organizations use Census Bureau and NCES data on state revenues and expenditures, along with various measures of educational outcomes such as test scores and graduation and dropout rates, to produce state rankings of educational performance. Most are not rankings of efficiency, although a few attempt to measure funding and performance within specific categorical programs. For example, the National Institute for Early Education Research issues an annual *State Preschool Yearbook* that ranks states according to funding for 3- and 4-year old preschool and Headstart students, as well as the percent of eligible children served and the measures of service quality. There were 12 states with no pre-K programs in 2005. Of the 38 states with early education programs, Kentucky ranked 8 in access for 4-year olds and 4 in access for 3-year olds, and received an 8 (out of a possible 10) score for the achievement of quality standards. Kentucky ranks 31 on state funding for pre-K services. However, preschool expenditures are not included in NCES or census data on K-12 spending, nor are they included in the 65 percent measure for instructional spending calculations.

All efforts to rank the states on educational performance and resource allocation are controversial because the evaluations depend upon the outcomes examined, the statistical methods used,

and the ways in which measures are standardized so states' performance can be compared. Therefore, the same state can appear to perform well on one organization's rankings and poorly on another.[4] Several attempts to rank the states are reviewed briefly below. The purpose of the review is to illustrate important data and interpretation issues raised by the rankings.

Education Week's *Quality Counts* Report

Education Week produces an annual state ranking called *Quality Counts*, which grades and ranks states on standards and accountability, teacher quality, school climate, and resource equity and spending.

Each year since 1997, Education Week has published *Quality Counts*, which grades and ranks the education systems of the fifty states and the District of Columbia using over 100 indicators. The ranking categories cover standards and accountability, efforts to improve teacher quality, school climate, and resource equity and spending. The Education Week Research Center obtains much of its data from a mailed survey to Chief State School Officers. Other indicators come from the NCES, the American Federation of Teachers, the Center for Education Accountability, and the Council of Chief State School Officers.

Education Week makes cost adjustments before grading states and establishing their rankings. The enrollment data are weighted to account for the higher cost of educating students in poverty and special needs. Adjustments for geographic cost differences are also made using the NCES Geographic Cost of Education Index that is based on 1993-1994 data.

In order to rank states on spending levels, Education Week calculates a spending index that compares a state's per pupil expenditures to the national average. The organization indicates that—in keeping with the national trends toward accountability and efficiency—the 2005 rankings de-emphasize equity and have scaled back the number of indicators to three statistical measures.[5]

Education Week does not rank student achievement because the data are incomplete and inconsistently measured across states.

[4] A study comparing state rankings produced by Education Trust and Education Week's *Quality Counts* shows that Massachusetts ranks at the top in Education Trust while New York ranks at the bottom; *Quality Counts*' rankings reverse that order. This contradiction is attributed to the different statistical methods used by the two organizations (Costrell).

[5] Education Week's *Quality Counts* rankings use a composite equity index. It consists of a wealth-neutrality score that measures the association between education revenue and property wealth; the McLoone index, which measures how close low-spending school districts are to the state median; and the coefficient of variation, which is a measure of how much variation exists in districts' per-pupil spending.

Instead, *Quality Counts* compares performance gains on the states' own assessment instruments to the performances on National Assessment of Educational Progress exams. The report's performance indices include gains for both the state and the national exams in reading and mathematics for 4th and 8th grades are listed, the percent of high school students taking advanced math and science courses, and the high school dropout and graduation rates.

Kentucky ranks above average in all *Quality Counts* categories except one. Kentucky earned an overall grade of B- while the average overall grade for all states was C+.

Table 1.5 reports the major scores for Kentucky and surrounding states for the *Quality Counts 2006* rankings. Kentucky is ranked above average overall, as are Indiana, Ohio, and West Virginia.

Table 1.5
Education Week's *Quality Counts 2006* State Rankings: Kentucky and Surrounding States

Performance Indices	IL	IN	KY	MO	OH	TN	VA	WV	US Avg.
Standards and Accountability Clear, specific standards for curriculum; tests aligned to state standards; schools provide report cards and include student performance data and graduation and dropout rates; uses incentives and sanctions; has remediation process	B+ 88	A 95	B+ 89	D+ 69	A- 90	B 84	B 85	A 94	B-
Efforts to Improve Teacher Quality Teacher education and qualifications; teacher assessment; limits on teaching out-of-field and on emergency licensing; professional development; accountability for teacher quality	C 75	B- 81	B 85	B- 82	B 86	C+ 78	B+ 88	B 83	C+
School Climate Absenteeism, tardiness, and classroom misbehavior; safety; parental involvement; open enrollment and charter school policies; class sizes; school facility condition and funding	C+ 78	C 75	C 74	B 83	C+ 77	C+ 77	C 73	C+ 79	C+
Resource Equity An index of three measures of the variation in resources available to state school districts	D+ 68	B- 80	C 76	C 73	C 74	C 73	D+ 67	B 85	C
Overall Grade	C+	B	B-	C+	B-	C+	C+	B	C+

Source: Education Week. *Quality Counts.*

An important issue raised by *Quality Counts* is the subjectivity of some measurements. For example, Kentucky is penalized under the "School Climate" category because it has no charter schools.

An important issue related to state rankings is illustrated by the performance indices used by *Quality Counts*. Among the variables used to measure "School Climate" are the following: whether state law permits charter schools, the strength of charter school law, the number of charter schools, and whether the state has a public school open-enrollment program.[6] These variables, which comprise 20 percent of the overall grade in this category, are assumed to be positive contributors to effectiveness. However, policy makers and school experts are divided about charter school policy. Advocates argue that they offer individuality and opportunity to students whose educational interests and abilities are best met by a nontraditional environment. Critics say charter schools take the best students and leave traditional schools worse off. Whether states that do not permit charter schools—such as Kentucky—should be graded negatively depends upon one's view of the impact of the policy.

Measuring Up

The National Center for Public Policy and Higher Education produces *Measuring Up*, which it calls "The National and State Report Card on Higher Education." *Measuring Up* is a biannual ranking of states that focuses on assessing the likelihood that students will successfully transition from high school to college and beyond. The National Center, a nonpartisan, nonprofit, independent organization, published its first rankings in 2000. Information used in its ranking comes from various government publications and a survey mailed to state agencies. Along with 32 other states, Kentucky chose not to participate in the latest survey; the measures for these states were based on the last available data (National Center. *Technical Guide* 11).

The National Center for Public Policy and Higher Education produces *Measuring Up*, a state ranking system related to higher education that grades the states on five performance categories: preparation, participation, affordability, completion, and benefits.

Measuring Up grades five performance categories: preparation, participation, affordability, completion, and benefits. Preparation measures how equipped students are to make the transition from high school to college. This category uses K-12 education data to define student preparation. Participation measures the extent to which state residents enroll in postsecondary education and training. Affordability measures how affordable a postsecondary education is in the state. Completion measures how well students progress toward completing their college degrees or certificates. The benefits category attempts to measure the rewards students obtain by having a college degree or certification.

[6] Charter schools are affiliated with school districts but are not subject to many of the requirements in hiring faculty and designing curricula and course offerings (National Conference of State Legislatures).

Each state receives a numeric score that is compared to the five highest-scoring states, and letter grades are assigned to each state based on their relative position to the top five A-states. Table 1.6 reports the graded scores for Kentucky and surrounding states from the 2004 *Measuring Up* report card, along with national averages. It should be noted that rather than comparing state performance to the national average, the report's emphasis is on state groupings of performance since the last report, within categories that show improvement, no change, and worse performance on a majority of the indicators.

Table 1.6
***Measuring Up 2004* National Report Card on Higher Education State Rankings: Kentucky and Surrounding States**

Performance Indices	IL	IN	KY	MO	OH	TN	VA	WV	US Avg.
Preparation High school completion; percent of students taking math and science courses; student proficiency scores; students taught by qualified teachers	B+ 87	C 74	C- 72	B- 82	C+ 78	C- 70	B+ 89	C+ 80	79.7
Participation The probability that 9th graders will finish high school within four years and go to college immediately after high school; college enrollment data	A 95	C+ 77	B- 80	B 83	C+ 79	C- 71	B- 81	C- 71	81.9
Affordability An estimate of the net costs that students and families in a state pay for higher education, as well as measures of state student loan policies	D 66	D 63	D- 60	F 53	F 46	F 48	D- 61	F 50	55.5
Completion Students' persistence from the first to the second year of college and completion of certificates and degrees in a timely manner	B 86	B 85	C 76	B 86	B 84	C+ 78	B 86	C 74	82.7
Benefits Four main areas that demonstrate economic and civic benefits received by the states as a result of having a highly educated population—educational achievement, economic benefits, civic benefits, and adult skill levels	B- 82	C 75	B 84	B 83	B- 81	C 76	A- 92	D 64	82.4

Source: National Center for Public Policy and Higher Education. *Measuring Up* and *Technical Guide*.

Compared to Kentucky's rankings on *Quality Counts* measures, the state's performance on *Measuring Up* indices is substantially lower.

Compared to Kentucky's ranking on *Quality Counts*, the Commonwealth's performance on *Measuring Up* indices is substantially lower. Kentucky ranks above the national average on benefits and on higher education affordability; although, the Commonwealth's grade on the latter index is 60. It ranks just below average on participation and well below average on preparation for college—the category that is directly related to elementary and secondary education—and on higher education completion.

The *Measuring Up* rankings illustrate the difficulty of evaluating performance scores when financial and demographic data are not included.

The *Measuring Up* rankings illustrate the difficulty of evaluating performance scores in the absence of financial and other data.

Table 1.6 shows Kentucky's preparation ranking is lower than all surrounding states except Tennessee. However, without knowing anything about per-pupil expenditures or teaching staff or other relevant school and district demographic information, it is impossible to say which states are performing at relatively higher levels. At a minimum, states with disproportionately higher levels of students who cost more to educate may be at a disadvantage in such head-to-head comparisons.

Like all ranking systems, *Measuring Up* scores are sensitive to the methods used to compute the rankings. If a different method was used, the same state could receive very different scores.

Another issue that impacts the interpretation of these performance indicators involves the method used to calculate the rankings. Within the performance categories, each state receives a numeric score that is compared to the five highest-scoring states, and letter grades are assigned to each state based on their relative position to the top five A-states. Ranking in this manner ("grading on the curve") can allow states to improve in terms of their raw scores and yet appear to perform at a lower level over time if other states improve relative to the top performers. A related concern is that the methods used to create the rankings involve substantial manipulation of the data to accommodate cases in which current data are not available.

Governing Magazine's *State and Local Sourcebook*

Governing Magazine, produced by the Congressional Quarterly, issues an annual *State and Local Sourcebook*, which compares states across a wide range of indicators, including elementary and secondary education spending.

Governing Magazine reports on state and local government issues. The magazine also produces an annual *State and Local Sourcebook* that shows how states compare across a wide range of indicators, including elementary and secondary education spending. Table 1.7 reports the *Sourcebook's* rankings for Kentucky and surrounding states.

The Governing Magazine *Sourcebook* ranks Kentucky last among all states on expenditures per capita and as a percent of personal income. However, the data used in the analysis, as well as the report's analytical method, create significant problems that call into question the usefulness of the state comparisons.

The *Sourcebook* ranks Kentucky last among all states on expenditures per capita and as a percent of personal income. However, there are a number of problems with the data that are significant enough to call into question the usefulness of these state comparisons. First, rather than drawing on NCES or Census education finance data, the 2002 *Sourcebook* uses the Census of Governments, which is conducted every five years.[7] It would be much more appropriate to use the education-focused data collected for NCES's *Revenue and Expenditures for Public Elementary and Secondary Education*, as well as the Census Bureau's *Public Education Finances* series, which use detailed coding guidelines to increase cross-state comparability.

[7] In noncensus years, the Annual Survey of Government Finance collects equivalent data.

The rankings are based on the assumption that all states are reporting comparable expenditures for instruction, instructional support, and auxiliary services. However, state funding for facilities provided through Kentucky's School Facilities Construction Commission (SFCC) are not included in expenditure totals. Appropriations made by the General Assembly for specific education projects outside SFCC or the education funding formula also are not included, making it impossible to know how Kentucky's expenditures reported in Table 1.7 actually align with other states' expenditures.

.

Table 1.7
Governing Magazine's *State & Local Sourcebook* FY 2002 K-12 Education Spending: Kentucky and Surrounding States[1]

Performance Indicators	Illinois	Indiana	Kentucky	Missouri	Ohio	Tennessee	Virginia	West Virginia	National Average
State & local expenditures[2]	17,940	7,988	3,896	7,388	16,495	6,152	10,401	2,279	411,073
State share	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	1.0
Expenditures per capita	1,425	1,297	953	1,303	1,446	1,063	1,427	1,263	1,427
Per capita rank	20	30	50	29	16	47	19	34	---
Expenditures: % of personal income	4.3	4.6	3.7	4.6	5.0	3.8	4.4	5.3	4.6
% Personal income rank	36	25	50	30	15	48	35	7	---

[1]As discussed in the report, there are significant data and methodology problems with the *Sourcebook* rankings. The table is included to illustrate these issues but should not be used to describe Kentucky's education expenditures.
[2]State and local expenditures are from the 2002 Census Bureau Annual Survey of Local Governments and include instruction, instructional support, and auxiliary services operated through school systems (school lunch, student activities, community services, pupil transportation, health services, guidance counseling); administration and supervision of school systems; special education; vocational education; libraries; and plant maintenance and operation. The expenditures also include state payments in support of local school systems as well as direct expenditures on their behalf, for example, construction, textbooks, acquisition and operation of school buses, and other local school activities (US. Census Bureau. *Government Finance*).
Source: Governing Magazine *State & Local Sourcebook* 13.

The state share reported by the *Sourcebook* also is inaccurate. In FY 2002, 10.5 percent of education revenues came from federal sources, 59.4 percent were from the state, and 30.1 percent came from local sources (U.S. Census Bureau. Annual Survey *2002,* 5).[8] The data set used by the *Sourcebook* reports all education expenditures as local for most states and does not report on education revenues by source.

[8] Census reports present revenue sources rather than the sources of funds actually spent.

Governing Magazine staff acknowledge problems with the education rankings.

Finally, spending per capita as reported in Table 1.7 is not a commonly accepted method of describing education expenditures. Unlike many of the other spending categories reported in the *Sourcebook*, such as environmental, public safety, and public works expenditures, education spending is more appropriately linked to the number of pupils in the state. Governing Magazine staff acknowledge that the Census Bureau's Public Education Finance data are "more useful for people who are just interested in education policy" rather than those who want to look broadly at state and local government activity, and added that "[S]imply from the data in our chart, it probably doesn't make sense to say that Kentucky isn't spending enough on K-12 education" (Goodman).

While state rankings are useful, they are subject to data and methodology issues that can limit their reliability and validity.

While state education performance rankings can provide a useful estimate of state and national educational inputs, processes, and outcomes, it is important to emphasize that all rankings are subject to data and methodology issues that can limit their reliability and validity. Reliability refers to the consistency of the measurement, or the degree to which an instrument measures the same way each time it is used under the same condition with the same subjects. Validity involves the degree to which the measurement accurately reflects the concept being analyzed (Pedhazur and Schmelkin).

State and National Education Efficiency Reviews

There are two basic forms of state and national education efficiency reviews, but these are not cross-state comparisons. The forms are state-directed efficiency audits and national efforts to link district and school academic outcomes to expenditures.

The state rankings discussed above do not focus specifically on measuring how efficiently schools and school districts are spending their resources, although several include resource indicators. There are examples of state and national efforts to examine education efficiency, but these reviews are not cross-state analyses. They take two basic forms: state-directed efficiency audits aimed at changing procedures at the district and school level to save money, and national efforts to link district and school academic outcomes to expenditures.

State Efficiency Efforts

About one-quarter of the states have implemented school efficiency reviews, some on a pilot basis, to improve school-level operational efficiency and performance. These include Virginia, Arizona, Florida, Minnesota, Mississippi, Nevada, Ohio, Oklahoma, Tennessee, and Texas (Hogge 2). While not directly linked to the 65 percent initiative, the goal of many of these efficiency reviews is to identify potential savings through operational and facility improvements and to redirect the savings to classroom instruction (Shook 3).

About a quarter of the states have conducted efficiency reviews that focus on resource management within administrative functions. The purpose of these reviews is to identify areas where changes in procedures could result in cost savings.

State efficiency studies do not evaluate educational outcomes and they are not financial audits; rather, they focus on resource management within administrative functions. They include the review of operations in areas such as transportation, energy use, janitorial services, food service, facilities, personnel systems and benefits, technology management, and teacher retention (National Association of State Budget Officers 1).

Texas has a long history of evaluating school districts' operational efficiency, beginning in 1991 with a statewide pilot program known as the Texas School Performance Review (TSPR). The program was run under the direction of the Comptroller of Public Accounts, and during the next 12 years, about 10 percent of school districts were reviewed. The reviews for the 101 districts resulted in over 7,600 recommendations, of which 91 percent were implemented. TSPR program staff reported $141 million in savings from 1991 through 2003 (Hogge; National Association of State Budget Officers). In 2004, the school review program was transferred to the Legislative Budget Board, a permanent joint committee of the Texas legislature that develops recommendations for legislative appropriations for all agencies of state government. The Legislative Budget Board said it documented savings of $63 for each dollar spent for those efficiency reviews that were conducted between 1991 and 1999 (State of Texas; Hogge).

Texas has been conducting efficiency reviews since 1991. The Legislative Budget Board, which administers the program, says it has documented savings of $63 for each dollar spent for the reviews between 1991 and 1999. Texas has established 12 audit categories that guide operational efficiency.

According to the Legislative Budget Board, Texas has established 12 TSPR "audit protocol" categories that guide operational efficiency, and other states have adapted the Texas framework in establishing their own efficiency reviews. The Texas protocol categories are

1. district leadership, organization, and management;
2. educational service delivery;
3. community involvement;
4. human resources management;
5. facilities construction, use, and management;
6. asset and risk management;
7. financial management;
8. purchasing and warehousing;
9. food services;
10. transportation;
11. computers and technology; and
12. safety and security.

Virginia created a School Efficiency Review program in 2003. It is a voluntary program modeled after Texas's reviews. To date, nine district reviews have been completed and $12.3 million in recurring savings have been identified, according to state documents.

The Commonwealth of Virginia created the School Efficiency Review program in 2003. It is a voluntary program modeled after the TSPR program. Reviews are conducted under the direction of the Virginia Office of Finance's Department of Planning and Budget, which contracts with external educational consultants with experience in school business practices. The reviews include specific recommendations for organizational, administrative, and procedural changes in seven of the categories used by the Texas program, and they specify projected costs and savings of each recommendation. The object of these reviews is to identify ways that school districts may realize cost savings in noninstructional areas in order to redirect those funds to classroom activities (Commonwealth of VA; Hogge 2; Shook 3).

Nine district reviews have been completed, with another 10 currently in progress. To date, the program recommendations have identified $12.3 million in recurring savings, although it is unclear the dollar value of the recommendations that actually have been implemented. Each review costs $164,000, and the estimated five-year savings for the nine districts ranged from a low of $232,800 to a high of $3.9 million. Total five-year costs exceeded five-year projected savings in one district (Shook 8-9).

Oklahoma created the School Performance Review program in 2001, using the 12 protocol areas adopted by Texas. Like Virginia, the goal of the Oklahoma program is to identify administrative savings that can be redirected to classroom instruction (National Association of State Budget Officers).[9]

National Efforts—Standard & Poor's SchoolMatters Return on Spending Index

Standard & Poor's (S&P) education evaluation service, known as SchoolMatters, ranks states based on student performance on National Assessment of Educational Progress (NAEP) exams. Rather than listing a numerical order of the states' performances, states are categorized as performing above, within, or below a "performance zone." SchoolMatters predicts the states' performances on the NAEP exams based on the percent of students in the state that participate in free or reduced-price lunch programs.

Standard & Poor's (S&P) education evaluation service, SchoolMatters, ranks states based on student performance on National Assessment of Educational Progress (NAEP) exams. S&P also calculates school and district return on spending indicators, but these measures cannot be compared across states.

[9] In 2005, the Oklahoma legislature established a task force to determine how additional efficiencies can be achieved through administrative reorganization and consolidation (National Association of State Budget Officers). A task force report on increasing efficiency and equity of education funding in Maine lists 12 states that have implemented or are considering requirements for school district consolidation (State of Maine).

If the difference between the expected performance and the state's actual performance falls within the performance zone, then the state is categorized as "within the expected performance zone." If the state's actual performance exceeds its expected performance, then the state is categorized as being "above the expected performance zone"; and if the state's performance is below the expected performance, then the school is classified as "below the expected performance zone." Using 2003 data, SchoolMatters reports Kentucky as above the performance zone for reading in both 4th and 8th grades, and within the performance zone for mathematics in both the grades (*State Reports*).

The return on spending index is a ratio of two variables, where the numerator is an average of math and reading proficiency scores on state-specific assessment tests, and the denominator is per-pupil spending on core instruction. The index is interpreted as the average number of reading and math proficiency points a state, school district, or school achieves per $1,000 spent on per-pupil core instruction.

SchoolMatters does not rank states based on financial performance, but the organization uses state-specific assessment data to report a return on spending index for states and state school districts. This index is a ratio of two variables, where the numerator is an average of math and reading proficiency scores and the denominator is per-student spending on core instruction.[10]

The SchoolMatters return on spending index is a measure of the average number of reading and math proficiency points a state or individual school district achieves per $1,000 spent on per-pupil core instruction. Kentucky's 2004 spending index was 7.8, up from 7.3 in 2002 and 2003. To illustrate district spending indices, Madison County's 2004 spending index was 9.5; Fayette County's was 8.0, and Jefferson County's spending index was 5.3.[11]

S&P does not compare spending indices across states because the results are particularly sensitive to specific community demographics. The SchoolMatters Web site allows for the comparison of school districts within states but cautions that the comparisons are most useful for similar districts. Thus, the S&P spending index has no universal or consistent interpretation across states and must be used with caution when comparing school districts (SchoolMatters. *State Reports*).

[10] Core spending includes expenditures for instruction, instructional staff support, general administration, school administration, pupil support, operations and maintenance, and other support service expenditures.

[11] SchoolMatters also provides adjusted index scores. When adjusting for student needs such as proportion of at-risk students and for geographic cost differences, the spending index scores for Madison, Fayette, and Jefferson Counties were 13.3, 10.7, and 7.2, respectively (*State Reports*).

Education Efficiency: Next Steps

Analyzing efficiency using the state efficiency review process or using statistical models requires an accurate evaluation of what states and school districts spend in commonly identified categories of instruction, instructional support, and noninstruction. Chapter 2 of this study will report on Kentucky's spending in these areas.

As noted earlier, any effort to measure the efficient use of education dollars is best linked to the achievement of desired education outcomes. However, in order to analyze efficiency—either using statistical productivity models or school efficiency reviews—an accurate evaluation must be conducted of what states or school districts are spending in commonly identified categories of instruction, instructional support, and noninstruction. Chapter 2 of this study reports on Kentucky's current and total spending in these areas, and includes a review of changes in spending over time.

Chapter 2

Kentucky Education Expenditures

Introduction

The Southwest Educational Development Laboratory (SEDL) analyzed state education databases in four states and found that although there are some significant limitations in the information collected, the data are sufficient to allow for an investigation of the impact of resource allocations.

In 2004, researchers at the Southwest Educational Development Laboratory (SEDL) released a study of the education databases in Arkansas, Louisiana, New Mexico, and Texas.[1] The study examined whether currently collected administrative data in these states were sufficient to allow policy makers to investigate the relationship between fiscal and staff resource allocation and student performance. Researchers concluded that state education data collections could and should be used to measure the impact of resource allocation (Pan et al. 2004).

The study noted that serious data gaps exist in some areas, such as the ability to measure students' performance over time; the ability to link students to their home environment and to classrooms and teachers; and the ability to evaluate the impact of programs like professional development (25-44). Nonetheless, SEDL found that policy questions of interest to state leaders can be addressed using state education data, including questions involving cost-effective instructional resource allocations in schools and districts with varying characteristics, links between teacher pay and student performance, and efficient distribution patterns of administrative and teaching staff.

Kentucky's education data are comparable to those examined by SEDL and should accommodate policy studies on efficient and effective resource allocation. However, Kentucky's data collection also suffers from limitations that will impact the precision of the analysis.

The Office of Education Accountability (OEA) reviewed the characteristics of the state data collections in the SEDL study and concluded that Kentucky's education databases are comparable to those in the test states.

Data problems identified by SEDL exist in Kentucky's data as well, including the inability to link to student-level indicators, the lack of longitudinal data, and the inability to analyze specific programs. This means that while available data will accommodate policy studies on efficient and effective resource allocation, there are important limitations in the precision with which efficiency and effectiveness can be measured.

[1] SEDL was established by Congress in 1966 as one of 20 regional education laboratories created by the Elementary and Secondary Education Act to conduct and disseminate education research.

As discussed in the previous chapter, the first step in any analysis of education efficiency is an examination of current spending patterns. According to SEDL, policy makers from the test states indicated a preference for the use of state-generated data, rather than the use of federal databases such as the Common Core of Data from the National Center for Education Statistics. Federal data sources attempt to make measures comparable across states, but the aggregation needed to accomplish comparability limits the analyses that can be conducted. State-level data offer the ability to study expenditures across multiple functions, provide more specific information on spending and staffing patterns within instructional areas, and rely on measures of resources and performance that are more familiar to state audiences (Pan et al. 2004, 2-3).

Organization of the Chapter

This section reports Kentucky's total and current expenditures at the state level and, where possible, at the district level. Staffing patterns are also examined. The chapter includes an analysis of spending and staffing patterns based on district characteristics, including wealth, size, poverty, geographic location, and district-level student performance. It is important to note that these simple analyses show relationships between spending and staffing based on district factors, but they do not explain why the relationships occur. They also do not measure efficiency. This section explains that in order to understand these relationships and how they relate to efficiency and effectiveness, more precise models must be used.

This chapter reports Kentucky's total and current education expenditures at the state level and, when possible, at the district level. Within current expenditures, spending for instruction, instructional support services, and noninstruction are examined, along with spending for functions within these broad categories. The distribution of teachers with varying lengths of experience and educational qualifications is analyzed, as are variations in teachers' salaries.

The analysis includes an examination of fiscal resource allocation and staffing patterns to see if there are significant differences in spending or staffing based on varying district characteristics such as wealth, poverty, size, geographic location, and district-level academic performance. These simple analyses between spending and staffing and district characteristics are intended to show the variations that exist among school districts. They address questions about how much and where resources are being allocated. However, the analysis does not explain why these relationships occur and they do not measure efficiency. Understanding why the relationships exist and how they relate to efficient and effective use of resources requires more precise models of efficiency, which are described in Chapter 3.

This section ends with an analysis of data integrity issues that must be addressed in order to improve the reliability and validity of Kentucky's education data.

Kentucky's Education Databases

The Kentucky Department of Education is the primary source of fiscal and academic education data.

There are a number of state agencies responsible for collecting and maintaining education data in the Commonwealth, but the Kentucky Department of Education (KDE) is the primary source of fiscal and academic information. Appendix B presents the sources and types of education data currently collected in the state. Ideally, fiscal, academic, and nonacademic data are most useful when examined at the student level. While the capacity of Kentucky's education data is not currently sufficient to support student-level analysis, technology efforts are moving the state in that direction. In addition, more and better information is available at the school level, and district-level analysis currently is supported by available data.

State Education Data and Levels of Analysis

District- and school-level expenditure analysis currently is supported by available data, as are academic outcomes. Student-level analysis is not yet possible, but the state is working to create a student longitudinal database.

Kentucky expenditure data are available at both the school and district level. These include both total and current expenditures for instruction, instructional support services, noninstruction, and facilities construction and programs outside pre-K-12 education.

Expenditures for teachers and other personnel and the distribution of teachers by rank and years of experience also can be examined at both the district and the school level. In addition, nonacademic student data, such as dropout and graduation rates and attendance data, can be analyzed at both the school and district level.

Academic outcomes are available by school and by district, and Kentucky is working to create a longitudinal database that provides individual student performance data over time. The implementation of unique student identifiers, which was accomplished in the current fiscal year, eventually will make it possible to link individual test scores with corresponding individual demographic and fiscal information using models of efficiency and effectiveness.

Education Appropriations

In FY 2005, 57 percent of pre-K–12 education revenue came from state sources, compared to about 47 percent at the national level. Thirty-one percent of Kentucky's education revenue came from local sources, and federal funds comprised 12 percent of total revenues.

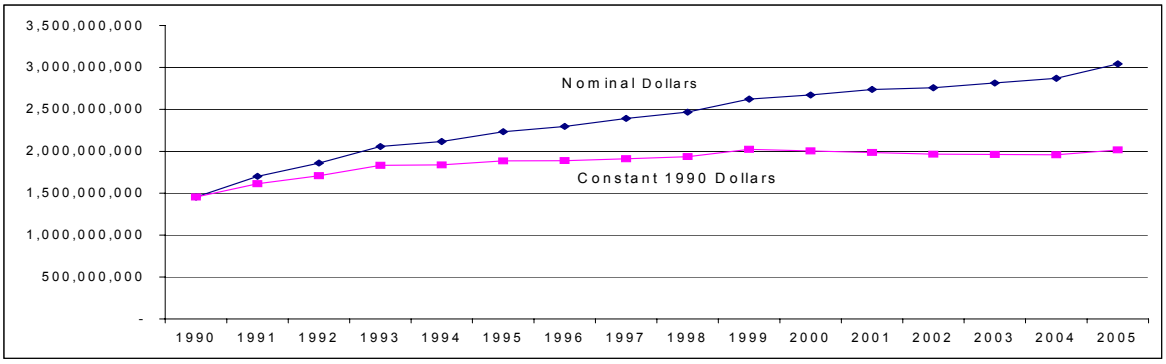
A mix of local, state, and federal funds pays for the provision of elementary and secondary education. In fiscal year 2005, state funds accounted for 57 percent of Kentucky's total pre-K-12 education revenue, while local and federal revenue sources were 31 percent and 12 percent, respectively (Commonwealth of KY. Dept. of Ed. *Receipt and Expenditure Files*). At the national level, states provide a smaller share of total education dollars than in

Kentucky—about 47 percent of total elementary and secondary education funding—while the local share is about 44 percent. Federal funding accounts for about 9 percent, on average, of pre-K-12 education revenue across all states (U.S. Census Bureau. Annual Survey of Local Governments 2004).

From FY 1990 to 2005, Kentucky's state appropriations for pre-K-12 education increased 109 percent in nominal dollars, from $1.5 to $3 billion. In constant dollars, appropriations grew by 39 percent. Inflation increased by 51 percent during this period.

Figure 2.A presents state-appropriated funding for pre-K-12 education from FY 1990 to FY 2005. Both nominal and inflation-adjusted appropriations are reported. Over the 15-year period, education appropriations have grown 109 percent in nominal dollars, from $1.5 billion to $3 billion. In inflation-adjusted terms, appropriations have grown by 39 percent from FY 1990 to FY 2005, to $2 billion in 1990 constant dollars. During this period, inflation rose by 51 percent.

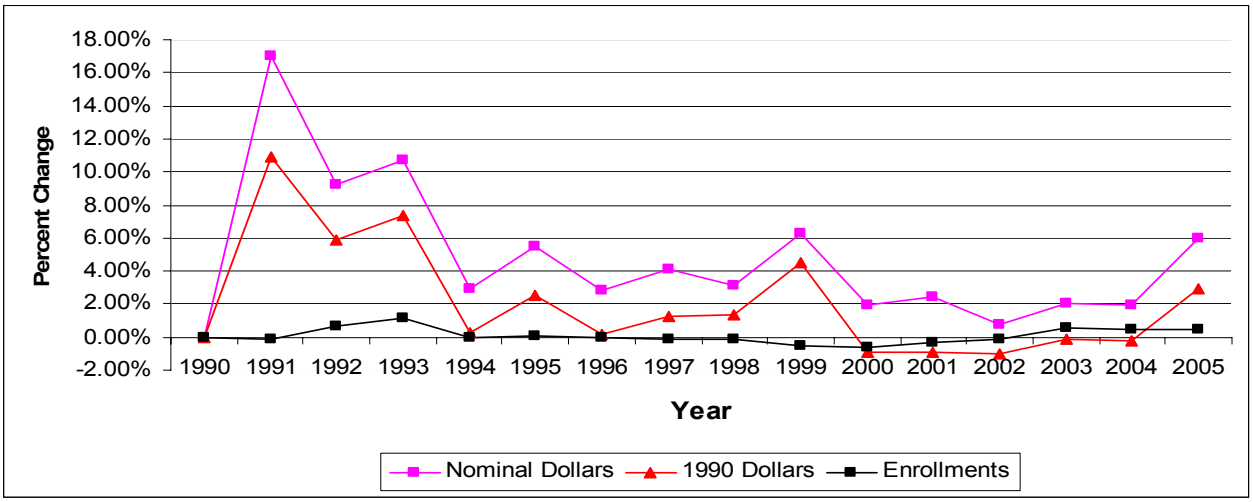
Figure 2.A
Pre-K-12 Education Appropriations FY 1990-FY 2005



Sources: Nominal expenditures are from the Kentucky Dept. of Ed. Division of Budgets; constant dollar adjustment is from staff calculations using CPI-U Index, Bureau of Labor Statistics.

There are many factors that can contribute to increases in state education resources, including increases in local funding, the availability of new technologies, the demands of student performance and accountability standards, growing enrollments, and increases in the costs of providing education services. Figure 2.B shows the percent change in student enrollment and education appropriations from FY 1990 to FY 2005.

Figure 2.B
Percent Change in Student Enrollment and Pre-K-12 Education Appropriations
FY 1990-FY 2005



Sources: Nominal expenditures are from the Kentucky Dept. of Ed. Division of Budgets; constant dollar adjustment is from staff calculations using CPI-U Index, Bureau of Labor Statistics; enrollments are from the Kentucky Dept. of Ed. Superintendents' Average Annual Attendance Reports.

Statewide student enrollment has remained constant over the 15-year period, although average enrollment masks considerable variation in student growth trends at the district level.

As Figure 2.B illustrates, statewide student enrollment—measured as end of year average daily attendance—has remained relatively constant over the 15-year period. Student enrollment was 569,454 in FY 1990 and grew to 574,292 in FY 2005. It is important to note, however, that state average enrollment figures mask important variations at the district level. Enrollments in growing districts, defined as the 26 districts eligible to levy the 5-cent equivalent growth tax authorized in 1994, increased by an average of 27 percent from FY 1990 to FY 2005. Student growth in these districts ranged from a low of 5 percent in Montgomery County to a high of 71 percent in Boone County from FY 1990 to FY 2005. In contrast, there are 94 districts whose enrollments over this time period failed to increase by the state average of 1 percent. Five of these districts experienced no growth, while 89 districts had declining enrollments that ranged from reductions of 1 percent to 42 percent.

State appropriations increased significantly in both real and nominal terms through FY 1993, as Figure 2.B shows. While the General Assembly has increased funding for education each year, the figure shows that since FY 2000, there have been several years in which this funding did not keep up with inflation.

Total revenues for elementary and secondary education grew by 129 percent in nominal dollars from FY 1990 to FY 2005. In constant dollars, revenue grew 50 percent. In FY 2005, total revenue was $4.6 billion.

While the above discussion reflects percent changes in state appropriations, total pre-K-12 education revenue grew by 129 percent in nominal dollars, from $2 billion in FY 1990 to $4.6 billion in FY 2005. In constant 1990 dollars, total education revenue grew 50 percent to $3 billion.

Total and Current Education Expenditures
FY 2000-FY 2005

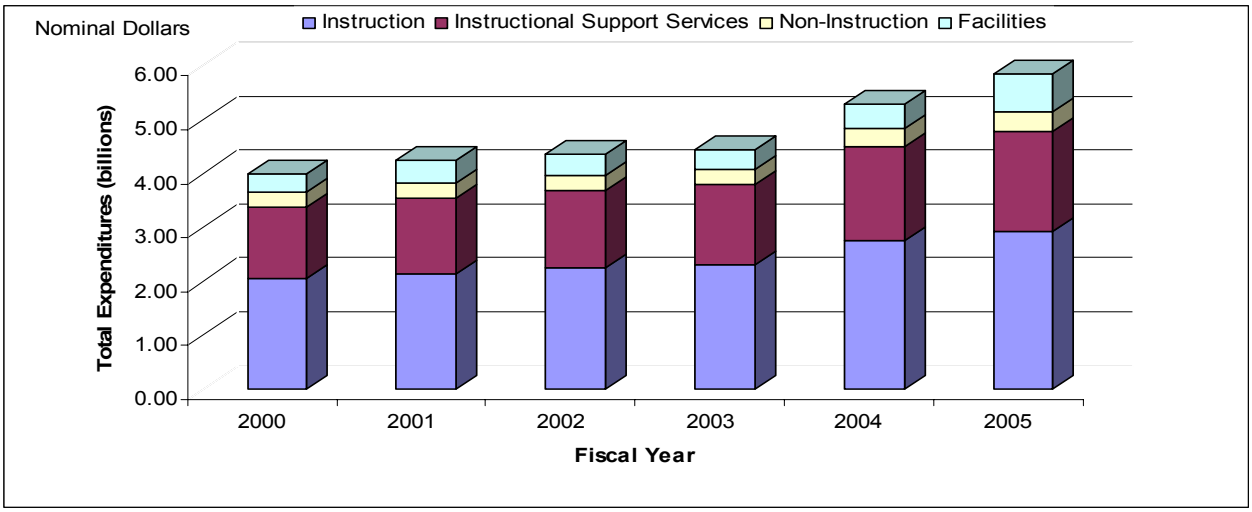
School expenditures are reported for total and current spending. Current expenditures do not include facilities acquisition and construction services, long-term debt spending, or educational programs outside the scope of elementary and secondary education. Current spending is generally analyzed within the categories of instruction, instructional support services, and noninstruction.

As Chapter 1 explained, school expenditures are reported for total and current spending. Current expenditures do not include facilities acquisition and construction services, long-term debt expenditures, or educational programs outside the scope of elementary and secondary education. Most research on the cost effectiveness of education resource allocations analyzes current expenditures, and some studies examine only certain categories of expenditures within instruction, instructional support services, and noninstruction.

Staff discovered that Jefferson County School District's expenditures were inaccurately reported in the FY 2001 and FY 2003 financial data provided by KDE.[2] OEA worked with the district to adjust the financial reports, and those adjustments are reflected in these analyses. KDE has not yet made these adjustments to state-level data. Expenditures for Kentucky's School for the Deaf and School for the Blind are not included in these analyses because KDE does not report spending for these institutions across all functions. Currently, expenses are reported under instruction or operations, regardless of the purpose of the spending. In addition, enterprise operations, which are activities within schools or districts that pay for themselves, are not included in current expenditures in this report. Examples of enterprise activities include districts that provide computer services to neighboring districts; and school bookstores, athletic game gate receipts, and concession stand revenues. The issue of enterprise operations is addressed in the section on data integrity.

[2] Funding paid by the state on behalf of Jefferson County Schools for retirement and health insurance in FY 2001 and FY 2003 was incorrectly included in the district's Annual Financial Reports. This resulted in overstating Jefferson County's expenditures and double counting these funds on reports submitted to NCES by the state.

Figure 2.C
Pre-K-12 Total Education Expenditures FY 2000–FY 2005



Source: Staff calculations using KDE Annual Financial Reports.

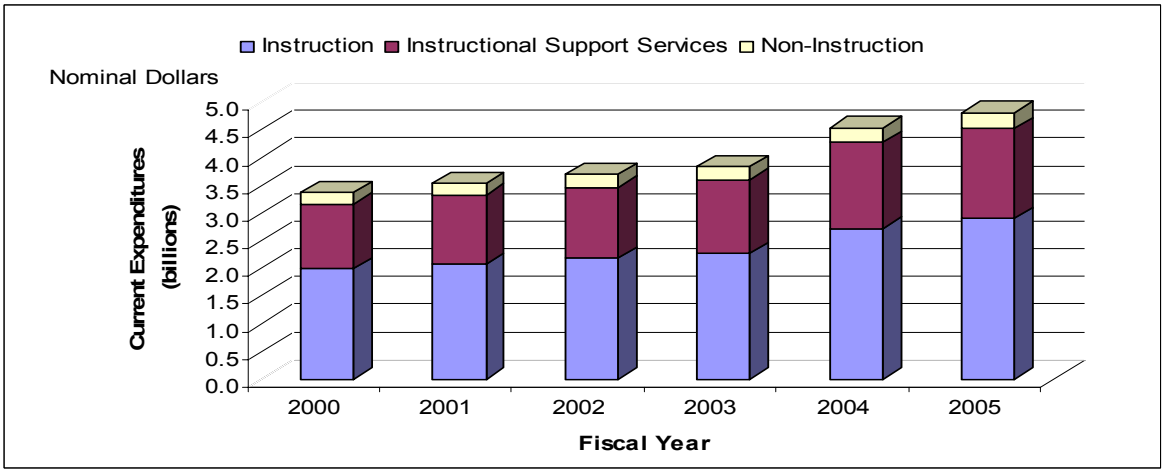
Total pre-K-12 spending increased 46 percent from FY 2000 to FY 2005, from $4.0 billion in to $5.8 billion.

Figure 2.C shows total spending for pre-K-12 education from FY 2000 to FY 2005. Spending increased 46 percent, from $4.0 billion in FY 2000 to $5.8 billion in FY 2005.[3]

During this period, instructional expenses averaged about 51 percent of total spending. Instructional support services accounted for 33 percent of total costs, with noninstruction averaging about 6.5 percent of total spending. Facilities expenses ranged from 8 percent to 12 percent of total expenditures.

[3] It appears that expenditures are greater than revenues, but the disparity is due to differences in the way the data are reported. Revenue data reported earlier do not include funds paid by the state on-behalf-of local districts for benefits such as retirement and health insurance and vocational schools. For FY 2000 to FY 2003, KDE reported on-behalf-of payments to NCES separately from other expenditure amounts. For FY 2004 and FY 2005, however, expenditure data include benefits, but revenues do not.

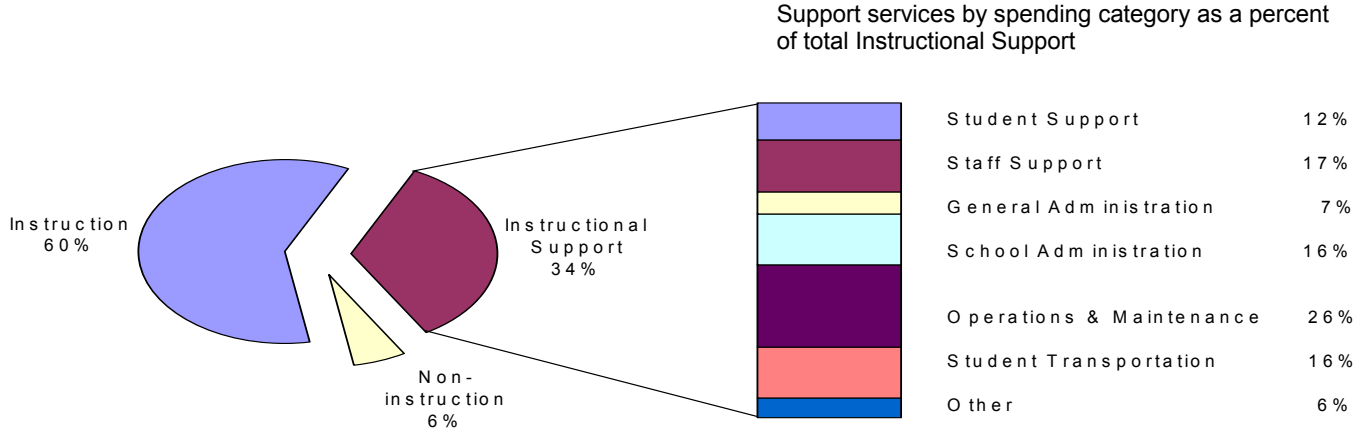
Figure 2.D
Pre-K-12 Current Education Expenditures FY 2000–FY 2005



Source: Staff calculations using KDE Annual Financial Reports.

Current spending for FY 2000-FY 2005 is reported in Figure 2.D for instruction, instructional support services, and noninstruction. Statewide, spending on instruction accounted for about 60 percent of all current expenditures from FY 2000 through FY 2005, with instructional support services and noninstruction accounting for about 34 percent and 6 percent, respectively. In FY 2005, spending on instruction was 60 percent of current expenditures.

Figure 2.E
FY 2005 Pre-K-12 Current Expenditures



Source: Staff calculations using KDE Annual Financial Reports.

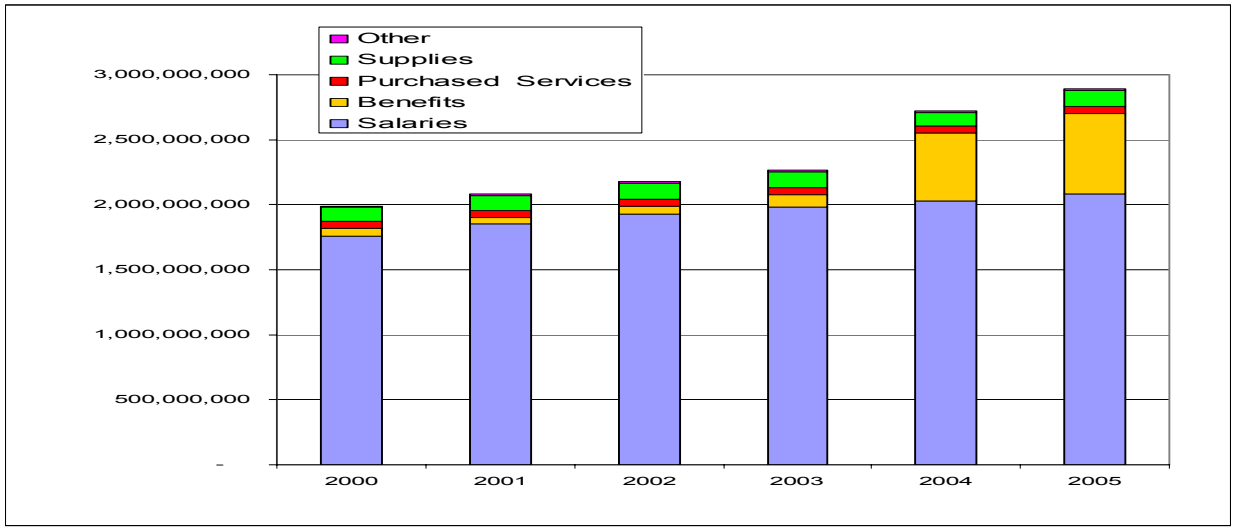
Figure 2.E shows overall spending patterns for current expenditures and reports the spending distribution within

instructional support services for FY 2005. Operations and maintenance costs account for the largest share of instructional support expenditures—26 percent—while staff support, school administration, and student transportation each consume between 16 and 17 percent of instructional support dollars. Student support services are 12 percent, while general administration (which includes both districtwide and central office support) and other nonspecified spending (which includes business support) account for between 6 and 7 percent of spending for instructional support services. See Table 1.1 in Chapter 1 for a list of the types of activities and spending functions included within each of these categories.

Kentucky's school administrative costs are in line with the national average, as are general administrative costs. Student transportation costs are about 4 percent higher than the national average.

On average, states spend a bit more on student support compared to Kentucky: about 15 percent compared to 12 percent. They also spend less on instructional staff support: 14 percent compared to 17 percent (U.S. Census. Annual Survey of Local Governments 2004). Kentucky's school administration costs are in line with the national average, as are general administrative costs. Student transportation costs and other nonspecified costs in the Commonwealth are about 4 percent higher than the national average.[4]

Figure 2.F
Pre-K-12 Current Expenditures for Instruction by Spending Object FY 2000–FY 2005



Source: Staff calculations using KDE Annual Financial Reports.

[4] National comparisons are based on FY 2004 figures, which are the latest spending data available from the U.S. Census and NCES.

Within the primary expenditure categories of instruction, instructional support, and noninstruction, education analysts generally track current spending for salaries, benefits, purchased services, supplies, and other spending. Figure 2.F reports these expenditures for instructional spending in FY 2000 to FY 2005.

Figure 2.F reports spending for current expenditures within the categories of salaries, benefits, purchased services, supplies, and other spending. The chart reflects policy changes that began in FY 2004 and that require districts to report health and retirement benefits and vocational education expenditures. In FY 2005, with benefits assigned to districts, salaries and benefits were 72 percent and 21 percent, respectively.

Figure 2.F appears to indicate that spending for benefits increased sharply in FY 2004 and FY 2005. However, policy and accounting changes are reflected in the data and are particularly evident in these two fiscal years, when districts began reporting health and retirement benefits and vocational education expenditures. Prior to FY 2004, KDE reported spending for employee benefits separately from pre-K-12 current expenditures. In addition, the data also reflect the fact that beginning in FY 2003, districts were required to pay benefits for personnel whose salaries are paid by federal grants. From FY 2000 to FY 2003, salaries accounted for between 88 and 89 percent of current expenditures. Benefits in those years were between 2 and 4 percent of current expenditures. In FY 2005, with benefits assigned to districts rather than reported separately, salaries and benefits were 72 percent and 21 percent, respectively, of current expenditures. Appendix C reports total and current spending for FY 2000 to FY 2005.

Current Expenditures by District in FY 2005

On average, districts spend 60 percent of current spending on instruction, 34 percent on instructional support, and 6 percent on noninstruction. However, there is considerable variation among districts on these spending patterns.

As reported in Figure 2.E, on average 60 percent of current expenditures in FY 2005 was spent on instruction, 34 percent was spent on instructional support, and another 6 percent was spent on noninstruction. However, there is considerable variation among the districts in the amount spent for these functions. Table 2.1 shows how school districts in FY 2005 spent money for instruction, instructional support, and noninstruction per pupil and as a percent of all current expenditures.

The range of spending shown in Table 2.1 demonstrates that although schools and districts may have limited discretion in resource allocation decisions, there is a certain level of decision making at the local level with regard to how fiscal resources are spent.

Table 2.1
Current Expenditures for Pre-K-12 Education by School Districts: FY 2005

Spending Category	Average	Lowest	Highest
Current Spending Per Pupil	$7,322	$5,771	$12,081
Spending on Instruction Per Pupil	$4,402	$3,402	$7,212
Spending on Instructional Support Per Pupil	$2,500	$1,682	$4,561
Spending on Noninstruction Per Pupil	$ 420	$ 279	$ 748
Instruction as Percent of Current Spending	60.1%	53.1%	67.9%
Instructional Support as Percent of Current Spending	34.1%	25.3%	41.5%
Noninstruction as a Percent of Current Spending	5.7%	3.0%	8.2%

Note: Per-pupil calculations are based on student enrollment.
Source: Staff calculations using KDE Annual Financial Reports.

Variations in Spending by District Characteristics

This section examines variations in spending patterns based on location, district size, poverty, wealth, and student performance.

To analyze further the patterns of resource allocation among the districts, spending is examined within five categories of district characteristics. Following this analysis, staffing and teacher pay are also examined using the same categories. These characteristics are: location, size, poverty, wealth, and student performance. Appendix D provides summary statistics for these grouping variables.

This analysis shows simple relationships, but it does not explain why the relationships exist; nor does it show a cause-and-effect link. To study these relationships and their impact on efficiency and effectiveness, more precise models must be used.

It is important to emphasize what this analysis shows and perhaps even more important to note what it does not show. Spending and staffing patterns among districts are related to district characteristics, as is discussed below. However, the analysis cannot explain why the relationships exist. Nor does it show a cause-and-effect link. The current analysis simply addresses questions about resource allocations that may be appropriate to study in more detail, but it does not attempt to link those allocations to efficiency or effectiveness. In order to do so, these types of patterns should be examined using more precise efficiency models, as discussed in Chapter 3.

District Characteristics

Location. To test whether districts in different geographic locations have significantly different spending patterns, average spending is examined among districts located within Kentucky's 15 area development districts (ADDs).

Size. Spending was analyzed according to the following size categories, based on school district membership: up to 2,000 students; 2,001 to 4,000 students; 4,001 to 6,000 students; 6,001 to 10,000 students; 10,001 to 20,000 students; and more than 20,000 students. These size groupings are based on criteria being considered by KDE in a study of facility issues.

Poverty. The percent of a district's student enrollment eligible for free or reduced-price lunch is used to test whether spending varies by the level of poverty in a district. Districts were grouped into low-, medium-, and high-poverty categories.

Wealth. Average spending is analyzed by placing districts in five groups, each containing approximately one-fifth of the state's pupils, based on local revenues received by school districts. Quintile 1 contains districts with the lowest local property wealth; Quintile 5 contains districts with the highest local property wealth. The *2005 School Finance Report* from the Legislative Research Commission's Office of Education Accountability contains a discussion of wealth quintiles.

Student Performance. The Commonwealth Accountability Testing System (CATS) accountability index is used to examine whether districts at varying levels of student performance demonstrate different spending patterns. Two separate groupings—quintiles and thirds—were used. Districts were sorted according to their CATS index score and then placed in groups (each containing about one-fifth of the state's pupils for the quintiles and one-third of all students for the 3-level analysis), based on their CATS accountability index scores. Both the quintile and the 3-level groupings were calculated to ensure that the results were not merely due to the way in which the performance scores were presented. Results are consistent using both performance groups.

Unlike the other district factors, which are demographic indicators largely outside school districts' control, student performance is an outcome variable of great interest to policy makers and educators. It is included here because it shows variations related to resource allocation, but as noted earlier, it is not appropriate to infer that performance or any other factor impacts spending or is impacted by spending. Chapter 3 discusses specific ways to model and study efficiency and effectiveness. The discussion here is intended to offer insight into Kentucky's education resources and how those resources are spent.

Table 2.2 reports the statistically significant differences in FY 2005 average per-pupil spending based on district characteristics. Tests of statistical significance examine whether differences in district spending are real or are simply due to random variations. If a relationship is statistically significant, the differences in average spending based on district characteristics are found to be real and not due to random patterns in the data.

Table 2.2
Variations in Current Expenditures Per Pupil by District Characteristics: FY 2005

District Characteristics	Average spending	Significant Differences
CATS Accountability Index: Lowest Scores to Highest Scores		
Quintile 1 (Average score: 69.8)	$7,787	Average per-pupil spending differences between Quintiles 1 and 3 ($612), 1 and 4 ($681), and 1 and 5 ($709)
Quintile 2 (Average score 74.6)	$7,543	
Quintile 3 (Average score 76.8)	$7,175	
Quintile 4 (Average score 80.2)	$7,106	
Quintile 5 (Average score 87.0)	$7,078	
Low Scores (Average score 70.0)	$7,776	Average per-pupil spending differences between groups 1 and 2 ($489) and 1 and 3 ($717)
Medium Scores (Average score 76.6)	$7,287	
High Scores (Average score 84.9)	$7,059	
Wealth Quintiles: Lowest Wealth to Highest Wealth Per Pupil		
Quintile 1 (Lowest Wealth)	$7,628	Average per-pupil spending differences between Quintiles 5 and 1, ($741), 5 and 2 ($1,246), 5 and 3 ($1,110), 5 and 4 ($1,541), 1 and 2 ($465), and 1 and 4 ($760).
Quintile 2	$7,163	
Quintile 3	$7,299	
Quintile 4	$6,868	
Quintile 5 (Highest Wealth)	$8,409	
Poverty: Free/Reduced-Price Lunch Students as Percent of Total Enrollment		
High Poverty	$7,785	Average per-pupil spending differences between high and medium ($772) and high and low poverty ($865)
Medium Poverty	$7,013	
Low Poverty	$6,920	
District Size: Smallest to Largest Districts		
(1) Smallest: up to 2,000 enrollment	$7,568	Average per-pupil spending differences between the largest districts and the smallest districts ($560)
(2) 2,001 to 4,000 enrollment	$7,299	
(3) 4,001 to 6,000 enrollment	$7,359	
(4) 6,001 to 10,000 enrollment	$6,859	
(5) 10,001 to 20,000 enrollment	$6,601	
(6) Largest: over 20,000 enrollment	$8,128	
District Location: Based on Area Development Districts		
No spending differences based on geographic location were significant.		

Notes: Significant differences are defined as statistically significant at the .05 level. Differences were calculated using General Linear Model equations. See Appendix D for district characteristic summary data.
Source: Staff calculations using KDE Annual Financial Reports.

Districts with lower Common-wealth Accountability Testing System index scores spend more on current expenditures, on average, than districts with higher performance scores. Wealthiest districts spend the most, followed by the lowest wealth quintile districts.

Districts with lower average CATS accountability index scores spend more than those with higher scores, as Table 2.2 shows. The relationship between spending and district wealth is a bit more complex. While districts with the greatest property wealth spend more, on average, than other districts, the lowest wealth quintile shows the next-largest per-pupil spending. Districts in wealth Quintile 4 spend the least, on average.

Districts with high levels of poverty (measured by percent of enrollment eligible for free and reduced-price lunch) spend more than districts with lower poverty. The largest districts spend the most per pupil, but the smallest districts spend the second-largest amount.

Districts with high levels of poverty, as measured by the percent of student enrollment eligible for free and reduced-price lunches, spend the most per pupil, while districts with the lowest poverty levels spend the least. As Table 2.2 shows, districts with the largest enrollments spend the most per pupil. However, the relationship between district size and current spending shows considerable variation between the size categories, and on average, the smallest districts spend the second-largest amount.

The same comparisons were calculated to analyze the percent of current spending that districts devote to instruction and to instructional support. Tables 2.3 and 2.4 report on these spending patterns for current expenditures for instruction and for instructional support, respectively.

Table 2.3
Variations in Current Expenditures Per Pupil for Instruction
by District Characteristics: FY 2005

District Characteristics	Average spending	Significant Differences
CATS Accountability Index: Lowest Scores to Highest Scores		
Quintile 1 (Average score: 69.8)	$4,695	Average spending differences between Quintiles 1 and 5 are $302 per pupil
Quintile 2 (Average score 74.6)	$4,584	
Quintile 3 (Average score 76.8)	$4,394	
Quintile 4 (Average score 80.2)	$4,362	
Quintile 5 (Average score 87.0)	$4,393	
Low Scores (Average score 70.0)	$4,688	Average spending differences between groups 1 and 3 are $322 per pupil
Medium Scores (Average score 76.6)	$4,457	
High Scores (Average score 84.9)	$4,366	
Wealth Quintiles: Lowest Wealth to Highest Wealth Per Pupil		
Quintile 1 (Lowest Wealth)	$4,629	Average spending differences between Quintiles 4 and 5 are $692 per pupil
Quintile 2	$4,381	
Quintile 3	$4,476	
Quintile 4	$4,290	
Quintile 5 (Highest Wealth)	$4,982	
Poverty: Free/Reduced-Price Lunch Students as Percent of Total Enrollment		
High Poverty	$4,721	Average per-pupil spending differences between high and medium ($419) and high and low poverty ($444)
Medium Poverty	$4,302	
Low Poverty	$4,277	
District Size: Smallest to Largest Districts		
No spending differences based on district size were significant.		
District Location: Based on Area Development Districts		
No spending differences based on geographic location were significant.		

Notes: Significant differences are defined as statistically significant at the .05 level. Differences were calculated using General Linear Model equations. See Appendix D for district characteristic summary data.
Source: Staff calculations using KDE Annual Financial Reports.

The spending differences among districts are similar to those reported in Table 2.2. Geographic region, as described by ADD boundaries, had no relationship to spending in any of the analyses.

In all but a few cases, the district characteristics were not related to the percent of current spending for instruction (presented in Table 2.3) or support services (presented in Table 2.4). The exceptions were the student performance factors, where findings were similar to the per-pupil spending analyses. On average, districts with lower CATS indices spend more on instruction and instructional support than districts with higher levels of student performance. Spending for instructional support services related to the wealth of the

district showed significant differences as well. The wealthiest quintile spent, on average, 37 percent of current expenditures on instructional support, compared to between 32 and 33 percent spent by the less-wealthy quintiles. Although some district size variations in spending were found to be significant when examining per-pupil current spending for instructional support services, there were no meaningful differences in district spending on instruction based on size, as Table 2.3 shows.

Table 2.4
Variations in Current Expenditures Per Pupil for Instructional Support by District Characteristics: FY 2005

District Characteristics	Average spending	Significant Differences
CATS Accountability Index: Lowest Scores to Highest Scores		
Quintile 1 (Average score: 69.8)	$2,605	Average per pupil spending differences between Quintiles 1 and 3 ($264), 1 and 4 ($307), and 1 and 5 ($345)
Quintile 2 (Average score 74.6)	$2,483	
Quintile 3 (Average score 76.8)	$2,341	
Quintile 4 (Average score 80.2)	$2,298	
Quintile 5 (Average score 87.0)	$2,260	
Low Scores (Average score 70.0)	$2,604	Average per pupil spending differences between groups 1 and 2 ($228) and 1 and 3 ($341)
Medium Scores (Average score 76.6)	$2,376	
High Scores (Average score 84.9)	$2,263	
Wealth Quintiles: Lowest Wealth to Highest Wealth Per Pupil		
Quintile 1 (Lowest Wealth)	$2,507	Average per pupil spending differences between Quintiles 1 and 4 ($328), 5 and 1 ($578), 5 and 2 ($759), 5 and 3 ($703), and 5 and 4 ($906)
Quintile 2	$2,326	
Quintile 3	$2,382	
Quintile 4	$2,179	
Quintile 5 (Highest Wealth)	$3,085	
Poverty: Free/Reduced-Priced Lunch Students as Percent of Total Enrollment		
High Poverty	$2,564	Average per pupil spending differences between high and medium ($297) and high and low poverty ($301)
Medium Poverty	$2,267	
Low Poverty	$2,263	
District Size: Smallest to Largest Districts		
(1) Smallest: up to 2,000 enrollment	$2,487	Average per pupil spending differences between the largest districts and group 4 ($971) and the largest districts and group 5 ($1,012)
(2) 2,001 to 4,000 enrollment	$2,379	
(3) 4,001 to 6,000 enrollment	$2,398	
(4) 6,001 to 10,000 enrollment	$2,176	
(5) 10,001 to 20,000 enrollment	$2,135	
(6) Largest: over 20,000 enrollment	$3,147	
District Location: Based on Area Development Districts		
No spending differences based on geographic location were significant.		

Notes: Significant differences are defined as statistically significant at the .05 level. Differences were calculated using General Linear Model equations. See Appendix D for district characteristic summary data.
Source: Staff calculations using KDE Annual Financial Reports.

Teacher Salaries and Staffing Patterns

The single-largest educational expense is teacher salaries, which accounted for 72 percent of all current spending in FY 2005. Salaries and benefits combined consumed 93 percent of current spending.

The single largest expenditure in pre-K-12 education goes to support the salaries of instructional personnel in school districts. In FY 2005, districts spent an average of 72 percent of current spending on teacher salaries, and another 21 percent went to benefits for instructional staff, for a combined expenditure of 93 percent.

Teacher salaries are based on the rank held and the years of experience in the job. In Kentucky, teachers may hold the rank of I, II, or III based on their educational qualifications.[5] The Education Professional Standards Board grants teaching certificates at these ranks to individuals who have completed an approved teacher preparation program and earned at least a baccalaureate degree from an accredited college or university. The criteria for rank designations is as follows:

- Rank III: certification at the baccalaureate level
- Rank II: certification at the master's or equivalent level
- Rank I: certification at the 'sixth-year,' specialist, or doctoral level

School districts establish their own salary schedules based on rank held and years of experience in teaching. Rank I teachers have the most education. Rank III teachers hold baccalaureate degrees and are generally new teachers entering the profession.

Kentucky also grants Rank IV and V certificates, but these are conditional and do not meet the No Child Left Behind Act definition of 'highly qualified' because they are not considered full certifications (Commonwealth of KY. Education Professional). [6] All Kentucky teachers must earn at least a Rank II certificate within 10 years of full-time teaching service. Teachers are not required to advance to Rank I status.

Half of Kentucky's teachers hold a Rank II certificate, with the other half evenly divided between Rank I and Rank III teachers. Table 2.5 shows the distribution of Kentucky's teachers by rank and years of experience as of September 15, 2005.

Experience is accounted for as a running tally of the number of years a teacher has worked in public schools in Kentucky. When a teacher moves from Rank III to Rank II, for example, years of experience are not impacted.

[5] Although Rank III teachers are required to work toward and earn a Rank II certificate within 10 years, there are just under 400 Rank III teachers with more than 10 years' experience who are grandfathered in under previous policy requirements.

[6] In 2005, just under 300 of Kentucky's 41,193 teachers held the rank of IV or V.

Table 2.5
Percent of Kentucky Teachers by Rank and Years of Experience: 2005

Years of Experience	Rank I	Rank II	Rank III	Rank IV and V	Percent of All Teachers: By Experience
0 - 10	10%	42%	47%	1%	52%
11 - 24	37%	61%	2%	-	35%
25 +	46%	53%	1%	-	13%
Percent of All Teachers: By Rank	24%	50%	25%	-	100%

Note: Percents may not sum to 100 due to rounding.
Source: KDE Certified Staff Data.

Half of Kentucky's teachers hold a Rank II certificate, with one-quarter holding a Rank I or a Rank III certificate. By July 2007, 13 percent of Kentucky's teachers will be eligible to retire.

As Table 2.5 illustrates, 13 percent of Kentucky's teachers had served at least 25 years by the end of the 2005 school year. By July 2007, they will be eligible to retire. That includes almost half of all teachers who held a Rank I certificate in 2005.

Districts are permitted to set their own salary schedules based on rank and experience. Although average teacher salaries will vary from the salary schedule, based on the qualifications of teachers who are working in the district, the salary schedule provides a reasonable measure of school districts' willingness to pay for teachers of varying qualifications. Table 2.6 reports average salaries in the state based on 185 days of service a year, as well as the highest and lowest salaries established by district salary schedules.

Table 2.6
Average Teacher Salary by Rank and Experience: 2005

	Rank I No experience	Rank I 10 years	Rank I 27 years	Rank II No experience	Rank III No experience
Average	$35,939	$44,395	$49,598	$32,261	$28,893
Lowest	$31,188	$38,172	$42,571	$28,617	$25,569
Highest	$41,508	$51,481	$63,102	$37,449	$33,047

Note: Salaries are based on 185-day salary schedules established by each district's board of education.
Source: KDE Professional Staff Data.

Teacher salaries and the distribution of teachers by rank, based on district characteristics, are examined. Characteristics include location, size, poverty, wealth, and student performance.

To analyze the patterns of resource allocation for teachers among the districts, teacher salaries established by districts are examined within the five district characteristics used earlier to analyze current spending. Significant differences in salaries by rank and experience are discussed below.

These relationships do not show cause-and-effect linkages nor do they relate directly to efficiency and effectiveness. This analysis simply addresses questions about teacher resource allocations that may be appropriate to study in more detail.

The cautions that were discussed about the district characteristics and expenditure data also apply to staffing. These relationships do not show cause-and-effect linkages nor do they relate directly to efficiency and effectiveness. This analysis simply addresses questions about teacher resource allocations that may be appropriate to study in more detail using efficiency models described in Chapter 3.

Salaries and District Student Performance

Districts with lower performance scores spend more overall on current expenditures than higher-scoring districts, but they spend less for teachers of comparable rank and experience.

Levels of student performance as measured by the CATS Accountability Index are related to teacher salaries, but this relationship is different from the link to current spending. Districts with lower performance scores spend more per pupil when overall spending is considered, but they spend less for teachers of comparable rank and experience than do districts with higher scores. The average salary for Rank I teachers with no experience is about $1,000 more among the districts with the highest student performance than among districts with the lowest scores. The variance is even greater for Rank I teachers with more experience. With 10 years' experience, districts with the highest student performance scores pay, on average, about $1,200 more than the lowest-performing districts; with 25 years' experience, that difference is about $2,400. The differences are similar with regard to Rank III teachers, but the variances are not as large.

Salaries and District Wealth

Districts in the highest wealth quintile pay teachers of similar rank and experience more than do less-wealthy districts.

The pattern of spending for teachers based on district wealth is similar to that for student performance. Districts in higher wealth quintiles pay more for teachers of similar rank and experience. In earlier comparisons of current spending based on wealth, while the wealthiest districts spent the most, the next-highest-spending districts were those in the lowest wealth quintile. However, that link is not seen with respect to teacher salaries. Districts with the least wealth spend the least for teachers. This is true with Rank I teachers with no experience, and the variances are even more pronounced with respect to Rank I teachers with 25 years' experience. The wealthiest districts spend, on average, $7,571 more on these teachers than do the least-wealthy districts. This pattern continues with salaries for Rank III teachers.

Salaries and District Poverty

Districts with lower levels of poverty pay teachers more than do districts with greater proportions of students eligible for free and reduced-price lunches.

Districts with higher levels of poverty, as measured by the percent of student enrollment eligible for free and reduced-priced lunches, were shown to spend more, on average, than districts with lower levels of poverty when per-pupil current expenditures were examined. However, with regard to districts' salary schedules, the relationship is also significant but in the opposite direction. Districts with lower levels of poverty pay teachers more. At the Rank I level with 25 years of experience, the difference is almost $3,000.

Salaries and District Size

Larger districts pay teachers more than do smaller districts.

Larger districts pay teachers more than do smaller districts, and as shown earlier, they also spend more per pupil. For Rank I teachers with 25 years of experience, the state's largest districts spend $10,685 more than the smallest districts. There are significant differences in salaries larger districts pay for Rank III teachers, but the magnitude of the difference is much less than spending variances based on size for Rank I teachers.

Salaries and Geographic Location

Geographic region is related to teacher salaries.

Unlike the previous analysis regarding current spending, teacher salaries are related to geographic location. This relationship is significant for all ranks and most experience levels. To illustrate the differences based on ADD boundaries, Table 2.7 reports salaries for Rank I teachers with 25 years' experience.

As Table 2.7 illustrates, there is wide variation in the salaries districts pay teachers with the highest education qualifications and with over two decades of experience. Districts in south-central Kentucky offer these teachers $2,000 to $3,000 less than the state average. Teachers in the Kentuckiana ADD with comparable rank and experience earn over $5,500 more than the average teacher.

Table 2.7
FY 2005 Teacher Salaries: Rank I With 25 Years' Experience

Area Development District	School Districts in ADD	Average Salary	Variance from State Average*
Purchase	12	$48,583	-$1,015
Pennyrile	10	$48,857	-$741
Green River	9	$49,304	-$294
Barren River	14	$48,737	-$861
Lincoln Trail	12	$51,188	$1,590
Kentuckiana	9	$55,161	$5,563
Northern Kentucky	20	$53,330	$3,732
Buffalo Trace	6	$47,605	-$1,993
Gateway	5	$47,908	-$1,690
FIVCO	9	$50,046	$448
Big Sandy	7	$49,413	-$185
Kentucky River	11	$47,986	-$1,612
Cumberland Valley	15	$47,441	-$2,157
Lake Cumberland	14	$46,676	-$2,922
Bluegrass	23	$49,557	-$41

*In FY 2005, the average salary for Rank I teachers with 25 years of experience was $49,598.
Source: Staff calculations using KDE Professional Staff Data.

The discussion of variations in teacher salary schedules based on district characteristics would be incomplete without noting that the analysis does not address the question of why these variations occur. Nor does it show the impact of the variations on district efficiency and effectiveness. It is possible that regional cost differences, variations in supply and demand for teachers, and other factors are at play here. The models described in Chapter 3 suggest ways to more fully explore these issues.

Distribution of Teachers by Rank

A question related to the issue of teacher salaries is whether there are important differences in the percent of school districts' teachers who hold ranks with greater educational qualifications. A considerable amount of research has examined the impact of teacher quality on student performance. There are a growing number of studies that find that outside of student-linked characteristics (such as family background, student demographics and language proficiency, and prior educational experience), teachers are the most important factor in student performance (Darling-Hammond).

As the SEDL researchers noted, it is important to examine whether there are observable patterns in the distribution of teachers by rank in the state. While teacher rank is sometimes used as a substitute for teacher quality, it is important to note that the two are not the same. Nonetheless, teacher certification is important because rank earned is evidence of continuing education on the part of teachers. Precisely how teacher rank relates to outcome measures of interest, and to efficiency of resource allocation, is a question to be answered through studies using more precise efficiency models.

As Table 2.5 reported, half the teachers in Kentucky hold a Rank II certificate. The other half of the state's teachers are evenly split between those with a Rank I certificate and those teachers with a Rank III certificate. Staff analyzed the distribution of teachers by examining the percent of districts' teachers who hold Rank I and Rank III certificates.

Rank I Teachers

Poverty and geographic location are the only district factors related to the distribution of Rank I teachers. High-poverty districts have fewer Rank I teachers. There is also substantial variation among school districts in different area development districts regarding the proportion of teachers who hold a Rank I certificate.

Poverty and geographic location are the only district factors related to the number of Rank I teachers in school districts. For districts with high poverty levels, measured by student enrollment eligible for free and reduced-priced lunches, on average 19.8 percent of their teachers hold a Rank I certificate, compared to 24.3 percent of teachers in low poverty districts. There was wide variation among school districts in ADDs with respect to teacher Rank I staffing patterns. In the Cumberland Valley and Lake Cumberland ADDs, 38 percent and 36 percent of all teachers, respectively, are at Rank I. This is particularly interesting given that those ADDs are among the lowest paying for Rank I teachers.

Rank III Teachers

A greater proportion of teachers in districts with the lowest CATS index hold Rank III certificates, compared to districts with the highest CATS scores. In addition, the smallest school districts have more Rank III teachers (30 percent), while for all other size districts, the percent of Rank III teachers is between 24 and 25 percent.

Rank III teachers are relatively new to the profession. Although they lack the advanced educational qualifications of Rank I and II teachers, it is unclear whether the quality of these teachers is less than their higher-ranked colleagues, and this analysis does not address that question.

Student performance and district size factors are related to the distribution of Rank III teachers. Greater numbers of Rank III teachers are found in districts with the lowest student performance scores. About 30 percent of teachers in districts with the lowest performance scores are Rank III, compared to 24.5 percent of teachers in districts with the highest student performance scores. District size is also related to the distribution of teachers of varying

ranks. The smallest school districts have more Rank III teachers (30.1 percent), while all other size categories have between 24 and 25 percent.

Districts with lower student performance, with less wealth, and with higher poverty levels have fewer National Board Certified teachers than do districts with higher CATS scores, greater wealth, and less poverty.

There are similar patterns with respect to the number of National Board Certified teachers in school districts. Districts with lower student performance scores also have fewer nationally certified staff, as do districts with less wealth and districts with higher poverty levels. There is also substantial variation in certification patterns among school districts in area development districts. For example, school districts in the Kentuckiana ADD have almost five National Board Certified teachers per 100 teachers, compared to the Pennyrile and Cumberland Valley ADDs, which each have fewer than one board certified teacher per 100 teachers.

The relationships that have just been discussed suggest issues that could be explored in greater depth and with more precision using models that are described in the next chapter. However, before efficiency and effectiveness measures can be estimated, steps must be taken to ensure that the underlying data are valid and reliable.

The next section reviews the guidelines that Kentucky and the federal government provide regarding the proper coding of expenditures, and provides an overview of data integrity problems and concerns.

In the process of reviewing total and current spending and personnel data, staff also examined the level of consistency with which districts report expenditures to KDE, as well as the instructions provided to state education agencies by NCES regarding appropriate expenditure coding procedures. The next section reports on this analysis.

Data Integrity Efforts and Concerns

NCES provides a detailed accounting manual that state education agencies are expected to follow. Most states, including Kentucky, also try to improve the accuracy of their education data through the efforts of state-level offices responsible for data integrity.

To ensure that all states report expenditures in the same manner, NCES provides a detailed accounting manual that state education agencies are expected to follow (U.S. Dept. of Ed. National. *Financial Accounting*). Most states, including Kentucky, also try to improve the accuracy of their education data through the efforts of state-level offices responsible for data integrity.

NCES collects states' total and current expenditures through the annual National Public Education Financial Survey and provides states with a separate set of instructions designed to walk state agencies through the data requested by the survey. The instructions specify the types of expenditures that are to be included within various function codes for instruction, instructional support services, noninstruction, facilities acquisition, and other expenses. As explained in Chapter 1 and reported in data figures in the previous section, there are also subfunction categories within

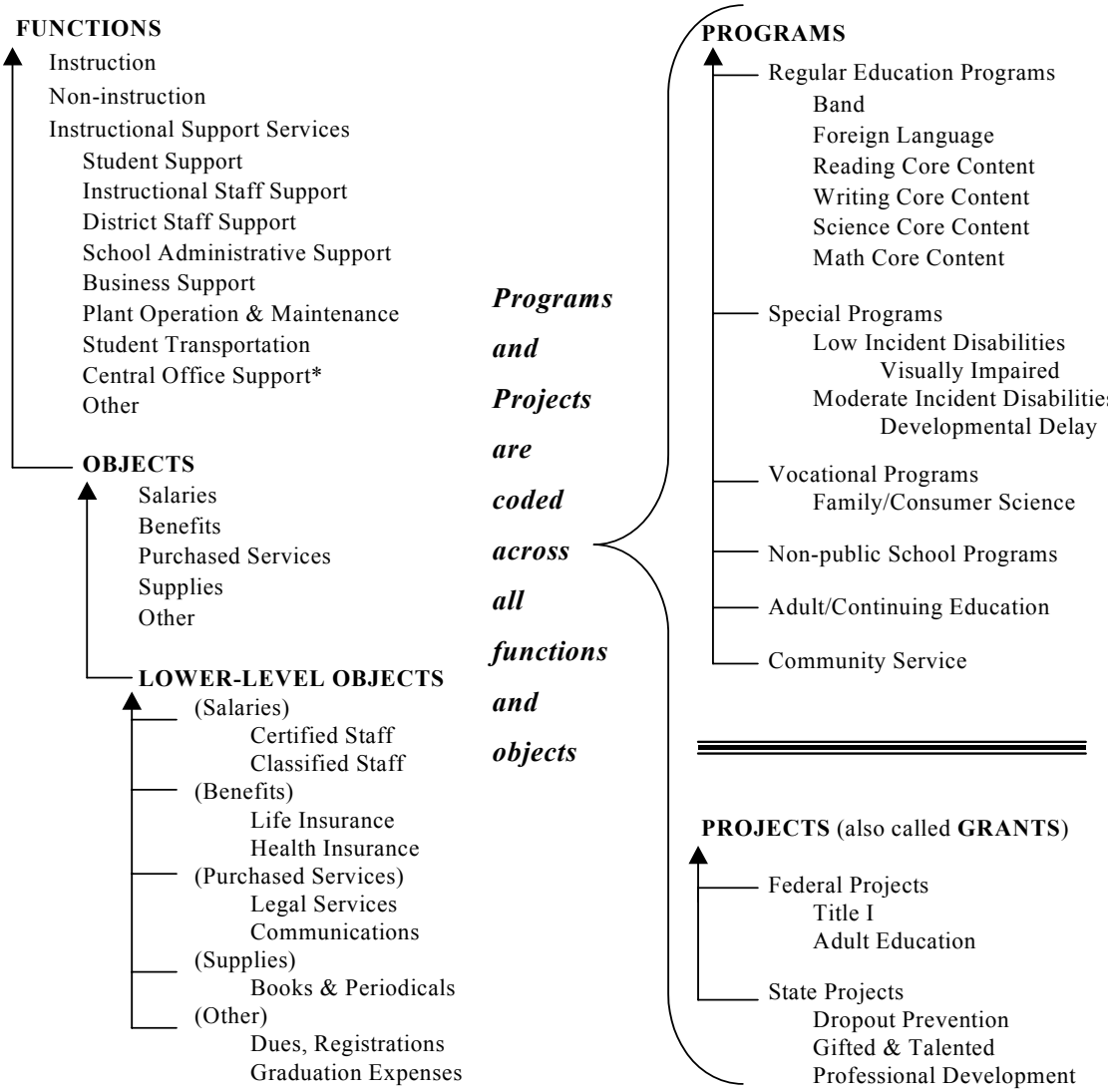
instructional support services to report spending for activities such as student support, instructional staff support, and district and school administration. The NCES Financial Survey identifies spending for these major functions and subfunctions by types of expenditures—called objects—for salaries, benefits, purchased services, supplies, property, and other expenditures.

Codes also are provided for programs and projects. Programs are plans of activities and procedures to accomplish a set of objectives. Examples include special education and gifted and talented education. Projects are categorical grants funded at the local, state, and federal levels. Professional development and Title I are examples of projects (U.S. Dept. of Ed. National. *Financial Accounting* 95).

KDE provides districts with a state-specific chart of accounts that mirrors, in large part, NCES's accounting instructions.

KDE provides districts with a state-specific chart of accounts that mirrors, in large part, NCES's accounting instructions (Commonwealth of KY. Dept. of Ed. *Chart of Accounts*). Figure 2.G shows the relationship between various segments of the chart of accounts.

Figure 2.G
How Kentucky's Chart of Accounts Reports Education Expenditures



*In November 2003, NCES directed states to eliminate the Central Office Support category and move expenses to Business Support. KDE implemented the change in FY 2005.
Source: Commonwealth of KY. Dept. of Ed. *Chart of Accounts*.

Staff found expenditure coding problems associated with NCES guidelines, with KDE's coding instructions, and with local school districts' coding activities.

As is explained below, there are some important differences between NCES's coding instructions and coding procedures followed by KDE and local districts. Office of Education Accountability (OEA) staff conducted a comprehensive review of expenditure coding instructions provided to states by NCES and coding instructions KDE distributes to local school districts through its chart of accounts. Staff then reviewed expenditures reported by districts in Annual Financial Reports. In the course of these reviews, staff identified coding errors at the national and

state level, as well as miscoded expenditures at the district level. The following section outlines the nature and fiscal impact of these data integrity issues. The purpose of the section is to describe the kinds of data issues that threaten the reliability and validity of Kentucky's education data and to quantify the fiscal impact of selected expenditure coding problems.

Federal Coding Instructions for the Financial Survey

In reviewing NCES's instructions to state education agencies completing the Financial Survey, OEA staff found multiple areas in which the coding directives are in error. For example, within the instruction expenditure function, federal coding guidelines call for states to exclude energy expenditures when reporting spending for instructional supplies. However, there are instances when energy costs are directly related to instruction, such as costs for science lab supplies and fuel for driver education, and excluding these costs results in understating spending on instruction. Staff estimates that instruction-related energy supplies averaged $1.3 million a year from FY 2000 to FY 2005.

A second example involves coding for interest paid on short-term debt. NCES directs state agencies to code this spending within Object Code 0830, and instructions for that object code indicate that these expenditures should be reported only within Function 5000, which is earmarked for "other functions – debt service," and which is not included in current expenditures. However, NCES's instructions for Function 5000 conflict with this guidance and indicate that interest on short-term debt should be coded within Function 2513. Unfortunately, NCES has failed to provide and define Function 2513, so it is unclear where states are coding spending for short-term debt or if states are including it within current expenditures as NCES intends. Perhaps due to this confusion, Kentucky is not reporting interest on short-term debt within current expenditures. Rather, KDE includes it with spending on long-term debt.

NCES acknowledges these coding errors and intends to address them in future data collections (Johnson).

State-level Expenditure Coding Issues

Staff identified a number of coding practices that may reduce the accuracy and consistency of education finance reporting in the state. Appendix E reports the nature of these coding discrepancies and, where possible, estimates their fiscal impact. The coding

practices generally fall within the following financial reporting areas.

State Guidelines for Reporting Spending Related to Local School and District Comprehensive Improvement Plans

KDE's guidelines for reporting expenditures related to districts' and schools' Comprehensive Improvement Plans were compared to actual spending reported by districts. A number of discrepancies were found in the coding for these expenses.

Every two years, local boards of education are required under KRS 158.649 to prepare a Comprehensive School Improvement Plan. The purpose of the plan is to review data on student achievement and to devise strategies for addressing performance needs to ensure that students reach proficiency by 2014. School districts also are required to develop a Comprehensive District Improvement Plan, to address districtwide student performance goals.

Staff reviewed the instructions KDE provides for determining which expenditures related to improvement planning are allowable for the district and school improvement plan program, as well as guidance on how specific spending activities should be coded These instructions are found in the *State Funding Matrices for Federal Competitive, Non-competitive, and State Grants*. Each matrix includes instructions for reporting expenditures for federal competitive and noncompetitive grants, as well as noncompetitive state grants. In the course of this review, staff identified a number of coding errors and discrepancies in the use of object codes for a number of education grants. These include grants or projects such as Title I (grants to local education agencies for disadvantaged children, generally defined as those eligible for free or reduced-cost lunch services), textbooks, migrant student services, safe schools, technology funding, professional development, and extended school services. Appendix E lists all project expenditures OEA reviewed and reports on coding discrepancies.

Districts and schools are reporting Comprehensive Improvement Plan expenditures that KDE says are not permitted. In a few areas, KDE says spending is not allowed but the activities appear to meet the objectives of the improvement grants. A few expenditures that KDE states are allowed appear to violate the grant parameters.

There are essentially three problem areas identified by staff. First, schools and districts are reporting spending within these grants for expenditures that KDE indicates are not permitted. Second, a few spending activities that KDE states are not allowable expenditures appear to OEA staff to be appropriate based on spending parameters of the grants. Lastly, some expenditures that KDE indicates are allowable appear to violate the grant parameters.

A related coding issue also surfaced in the course of reviewing KDE's guidelines for reporting expenditures. There are a number of KDE-specific expenditure codes that are not included in the guidelines. When a spending object code is excluded from the instructions, it is unclear whether that exclusion implies that the

spending activities are not permitted or whether failure to address those activities is an oversight on KDE's part.

Spending for Programs Such as Reading, Writing, Science, and Math Core Content That Is Reported in Higher-level Codes Rather Than in Lower-level Program-specific Codes

Spending for education programs linked to accountability areas, such as reading and math core content, currently cannot be analyzed because districts are aggregating these expenditures under higher-level "Regular Instructional Program" codes, rather than reporting them separately. In addition, KDE permits districts to assign some expenditures to generic codes, so there is no way to identify the specific purpose of these spending activities.

Within Kentucky and across the nation, the requirements of the No Child Left Behind Act and of state-level accountability systems have led to increased scrutiny of student performance in schools and districts. More resources are being directed toward improving education outcomes, and schools and districts are held accountable for their students' test scores in specific program areas. However, spending for programs linked to specific accountability areas, such as reading and math core content, currently cannot be analyzed because districts are aggregating these expenditures under higher level "Regular Instructional Program" codes, rather than being reported separately. This limits the ability to evaluate the efficiency and effectiveness of these programs.

Spending That Is Not Tied to Any Specific Educational Program

A related issue is the failure to provide program codes for some expenditures. KDE's chart of accounts permits districts to assign program spending to zero-level codes, which are described as "No Program," "All Programs," "District Assigned," and "Board Paid." When program codes tied to particular activities are not used, there is no way to identify the specific purpose of the expenditures or to evaluate the impact of the spending.

Direct Cost Programs

Current expenditures are overstated because some direct cost programs, such as adult education and community college programs, are not being reported within the appropriate program codes.

Direct cost programs cover school district expenditures for activities that are not part of the regular elementary and secondary education curriculum. Examples of direct programs include nonpublic school programs, adult education, and community college programs. These expenditures should be included in total spending but excluded from current expenditures because they are beyond the scope of pre-K-12 education.

Currently, the way in which KDE is coding and reporting some direct cost program expenditures incorrectly assigns spending to current expenditures. In addition, because KDE does not analyze and report direct cost programs using program codes, Kentucky's

data submission to NCES incorrectly shows a zero balance for direct cost program expenditures.

Spending Reported Under the Wrong Function Category

Staff identified a number of instances in which spending was coded to the wrong function. For example, some professional development expenditures were coded to instruction rather than to instructional support services. There was also evidence of instructional spending recorded as instructional support and noninstruction.

Higher- and Lower-level Object Codes

Lower-level object codes should be used so the precise purpose of the expenditure can be recorded. However, in some instances only higher-level (and more general) object codes are used. This practice has resulted in some expenditures being included in current spending that should be excluded.

As shown in Figure 2.G, the chart of accounts provides higher-level object codes for salaries, benefits, purchased services, supplies, and other expenditures. These general category codes—for example, Object Code 0500 for purchased services (other)—are intended as a description of the spending and can be used to aggregate and summarize the data. In most instances, however, lower-level object codes within the 0500-series should be used so that the precise purpose of the purchased service is recorded.

To illustrate the potential problems associated with the practice of using only higher-level object codes, consider districts that lack the capacity to serve certain student populations. For example, some districts send preschool and special needs students to other districts because they do not offer appropriate services in the home district. The home district is responsible for paying tuition fees to the receiving district. The receiving district will treat the tuition payments as revenue and record the spending associated with this payment. If only the 0500 higher-level object codes are used, it is not possible to know precisely what kinds of tuition payments are being recorded. If the costs reported by the home district are for out-of-state or private school tuition, these are appropriate to include in expenditure reporting. However, if the spending is for fees to another public school district in Kentucky, they should be excluded from current and total expenditures to prevent the expense from being counted twice in the state's spending report.

It should be noted that KDE does mandate that districts use some lower-level object codes. For example, within 0600 object codes for supplies, there is a lower-level code—0640—for books and periodicals. KDE requires districts to use a still more precise object code—0644—for textbooks and other instructional materials.

On the other hand, KDE has not always followed through on its directives regarding the use of lower-level object codes. In an October 2005 newsletter to district financial officers, KDE requested that districts use lower-level object codes for energy expenditures so costs for specific types of energy could be analyzed. Instead of coding spending to a general energy code, districts were directed to use specific codes for natural gas, electricity, bottled gas, diesel, and so on. Although KDE said higher-level energy codes would be deleted at the end of FY 2005, the code is still included in the chart of accounts and it is possible districts are still using it.

General Expenditure Reporting Concerns

Appendix E reports all coding problems identified by the study.

The coding issues described above represent selected examples of the kinds of discrepancies staff found when reviewing districts' Annual Financial Reports. Appendix E reports all instances of coding errors found while reviewing the data. However, staff could not conduct data integrity reviews for expenditures other than spending tied to federal and state grants. In particular, it was not possible to analyze spending from districts' general funds, which is where expenditures made with SEEK funds are recorded. Such a review requires the ability to examine lower-level function codes. Currently, higher-level codes are reported to the state, which offers less-precise information.

Lack of state-sponsored training and descriptive guidance on coding requirements, as well as limited review and enforcement of district coding practices, may contribute to miscoding.

It appears that some data integrity problems are the result of personnel at the district and school level who do not fully understand the requirements of Kentucky's chart of accounts. KDE does not provide detailed descriptions of allowable expenditures associated with functions, objects, or programs and expects districts to provide training for personnel responsible for accounting activities.[7] Lack of state-sponsored training and detailed documentation of coding procedures as well as limited review and enforcement of accounting protocols may contribute to miscoding and threatens the reliability and validity of the data.[8]

[7] When Kentucky first implemented the MUNIS software program that districts use to record revenues and expenditures, the state provided both training and detailed written instructions. However, state officials now consider MUNIS to be in a maintenance mode and expect districts to take the necessary steps to code fiscal activities correctly.

[8] For example, construction services are reported in Object Code 0450. This object code should only be used with Function 4000, which includes facilities acquisition and construction services. Function 4000 is not included in current expenditures. However, districts are using Object Code 0450 for all functions, which means that current expenditures are inflated.

Fiscal Impact of Selected Coding Errors

As noted above, staff was able to study potential coding problems by analyzing only a small portion of education expenditures from FY 2001-FY 2005. The dollar amounts associated with these coding errors and the resulting adjustments to current expenditures for instruction, instructional support, and noninstruction are reported in Table 2.8. See Appendix E for a listing of all coding issues related to this review that impacts the reliability and validity of Kentucky's education data.

Table 2.8
Adjustments to FY 2001-FY 2005 Current Expenditures

	Current Expenditure Adjustments*			Percentage Changes in Adjusted Spending Categories			
Fiscal Year	Instruction	Instruction Support	Noninstruction	Instruction	Instruction Support	Noninstruction	Overall Percent Change
2001	-$46,161,014	-$7,330,039	-$883,740	-2.2%	-0.6%	-0.4%	-1.5%
2002	-$44,089,789	-$8,522,867	-$759,420	-2.0%	-0.7%	-0.3%	-1.4%
2003	-$43,470,930	-$14,464,018	-$851,574	-1.9%	-1.1%	-0.4%	-1.5%
2004	-$40,548,311	-$18,713,274	-$2,380,139	-1.5%	-1.2%	-0.9%	-1.4%
2005	-$36,401,354	-$24,300,229	-$1,185,770	-1.3%	-1.5%	-0.4%	-1.3%

* Note: Adjustments to current expenditures are based on OEA comparisons of district-level financial reports with KDE and NCES expenditure reporting guidelines.
Source: Staff calculations using KDE Annual Financial Reports.

Based on OEA's data integrity review, staff estimate that current expenditures were overstated by between 1.3 to 1.5 percent from FY 2001 to 2005. This review only examined spending for grants, and it is possible that other funding categories within the accounting structure suffer from similar data problems.

Based on OEA's review of districts' Annual Financial Reports and a corresponding review of NCES's and KDE's coding instructions, staff found that overall, current expenditures from FY 2001 to FY 2005 were overstated by between 1.3 to 1.5 percent. Spending for instruction was overstated by between 1.3 and 2.2 percent.

It also should be emphasized that the adjustments reflected in Table 2.8 are based on a review of spending for grants. It is possible that other spending categories within the accounting structure suffer from data integrity problems as well. It is not possible to estimate the fiscal impact of other potential coding errors.

The current analysis does not include enterprise operations for school activity funds. Staff excluded these expenditures because they are presently not being reported on districts' Annual Financial Reports within MUNIS, the statewide accounting system. However, individual schools are tracking these funds in their own accounting systems, but KDE does not provide guidance on coding

procedures for school activity funds. NCES directs states to include school activity funds within current expenditures. Since the Commonwealth does not report these costs, current expenditures are understated.

There are expenditures that are not reflected in Kentucky's current or total spending, such as school activity funds and spending of educational cooperatives on behalf of member districts.

In addition, Kentucky has a number of educational cooperatives that provide assistance and expertise to member school districts.[9] The cooperatives also offer educational services and programs that support member districts and their schools in school improvement efforts. This report does not reflect funds paid to the cooperatives by KDE; nor does it reflect state or federal grants received by cooperatives and spent on behalf of member districts. Kentucky's Auditor of Public Accounts estimates that in FY 2005, $27.7 million was spent by the cooperatives on behalf of member districts (*Audit Reports Database*). These expenditures are not reflected because KDE does not report them at the state level, and districts are not required to reflect these services in Annual Financial Reports.

Conclusion

This chapter has reported on total and current expenditures in Kentucky and has provided detail regarding both spending levels and the purposes for which the funds have been spent.

In order to study efficiency, accurate data must be available, and this section has also reported on a number of data integrity issues at the federal, state, and local levels. OEA has discussed these concerns with KDE and NCES.

While Kentucky is taking steps to improve the level of detail, and the accuracy, of education data, more must be done in order to evaluate spending tied to specific programs and projects. Enhanced data integrity efforts also are needed. However, it is possible to use existing fiscal, academic, and nonacademic data to examine school and district efficiency and effectiveness.

While there are limitations and reliability and validity concerns with any large data set, Kentucky is taking steps to improve upon the level and accuracy of education data. When student-level data become more widely available, efforts to study efficiency will be enhanced. A significant issue, however, will be the ability to study educational programs and projects. While overall measures of resource allocation are important to examine, it is more likely that significant efficiency and effectiveness questions should be tied to projects such as professional development or to programs such as

[9] Kentucky cooperatives include the Badgett Regional Cooperative for Educational Enhancement, Inc.; Central Kentucky Education Cooperative; Green River Regional Educational Cooperative; Kentucky Educational Development Corporation; Kentucky Valley Educational Cooperative; Northern Kentucky Cooperative for Educational Services, Inc.; Ohio Valley Educational Cooperative; and West Kentucky Educational Cooperative.

reading and math core content. Improvements are needed in the quality and detail of data in these areas.

Nonetheless, it is possible to use existing fiscal, academic, and nonacademic data to begin to examine school and district efficiency. Chapter 3 outlines the indicators that are necessary in such analyses and provides examples of the types of models that can be used to measure efficiency and effectiveness.

Chapter 3

Indicators for Measuring Efficiency and Effectiveness

Introduction

Efficiency means obtaining the maximum possible output for a given expenditure by minimizing waste and by choosing the mix of resources that best suits the educational needs of each student, school, and district.

Efficiency means obtaining the maximum possible output for any given expenditure of resources. There are several components to this simple definition. First, efficiency implies that districts and schools are eliminating waste to the fullest extent possible. Second, an efficient educational system is one in which the mix of resources (also called inputs) used are those best suited for the educational needs of the student, school, and district. For example, providing more funding to hire reading teachers in a district with adequate reading scores but inadequate math scores may be considered inefficient by this definition.

The purpose of Chapter 3 is to provide an inventory of financial, academic, and demographic indicators that can be used to measure efficiency and effectiveness. This chapter also aims to demonstrate the ways in which those indicators can be used in efficiency models.

The purpose of Chapter 3 is to provide an inventory of financial, academic, and demographic indicators that can be used to measure efficiency and effectiveness. This chapter also aims to demonstrate the ways in which those indicators can be used in efficiency models.

This chapter of the report links to Chapter 2 in two ways. First, the discussion of education indicators implies that the data accurately reflect the spending, staffing, program activities, and student characteristics at the school and district levels. If the data are not valid and reliable, then despite the most carefully selected indicators or the most precise models, it is not possible to measure district or school efficiency. The quality of Kentucky's educational indicators will be greatly enhanced by addressing the data integrity issues raised in the report.

Simple patterns in data on spending do not explain reasons behind the apparent relationships. Nor do they link these relationships to school or district efficiency and effectiveness.

In addition, Chapter 2 reported patterns in spending and staffing by district characteristics. However, these simple relationships do not explain reasons behind the apparent relationships. Nor do they link these relationships to school or district efficiency and effectiveness. Policy makers are most interested in seeing cause-and-effect relationships. They want to understand how resource allocation decisions impact important education outcomes. They also want to know if it is possible to improve these outcomes with more efficient resource decisions. Most of the models reviewed address the issue of causality.

Organization of the Chapter

This chapter reviews reliability, validity, and other data quality considerations. It then describes the types of indicators and models that are most relevant for assessing efficiency and effectiveness.

The chapter begins with a brief review of important reliability and validity issues and data concerns that should be addressed in order to examine education efficiency. It then describes the types of indicators most relevant to the analysis of educational effectiveness and efficiency. Finally, it presents a brief review of several models that demonstrate how the inventory of indicators can be used to measure efficiency and effectiveness. Efficiency measurements have the potential to serve as important diagnostic tools to identify districts and schools that are using resources efficiently to produce high-level performance outcomes, as well as to assist districts that could improve the efficiency of their resource allocations.

Efficiency and Effectiveness Measures

An education indicator is a measure of the current status of, or change in, an educational system with regard to its goals.

An education indicator is a measure of the current status of, or change in, an educational system with regard to its goals (National Forum. *Forum Guide* 1). Examples include test scores, graduation rates, and teacher retention rates. Indicators may be a single measure at one point in time, an average of measures at several points in time, or a combination of different but related measures, such as the CATS Accountability Index.

Studies of the efficiency of the educational process can provide very different results—even for equally efficient schools—depending upon the types of indicators used. The U.S. Department of Education's National Center for Education Statistics established a cooperative called the National Forum on Education Statistics to help produce and maintain comparable and uniform education data. Among the products this group produced is a compilation of indicators and best practices known as the "Forum Guide." This chapter draws from the Guide's discussion of criteria for education indicators.

What Makes a Good Indicator?

A good indicator provides an optimal balance of usefulness, reliability, validity, timeliness, and cost effectiveness. No indicator is perfect, but tradeoffs should not unduly compromise or overlook any of these important criteria.

Usefulness. An indicator is useful if it precisely answers questions related to specific policy goals and objectives. Not everything that is important is easily measured, and sometimes researchers use more accessible variables as substitutes for concepts that cannot be measured directly.

The depth and breadth of indicators should be sufficient to explore alternative explanations for apparent causes and effects and to detect unintended consequences of policies and initiatives.

Reliability. Indicators are reliable if their use consistently yields the same results over time under the same conditions with the same subjects. Reliability requires that consistent methods be used to define, collect, analyze, and report information.

An important issue regarding reliability is the trade-off between quantitative and qualitative measures. A quantitative measure, such as enrollment or number of teacher aides, is likely to have the same value no matter who is doing the measuring, and it is easy to verify. A qualitative measure is more subjective, requiring interpretation and judgment; examples are writing portfolio scores and Standards and Indicators for School Improvement scores. These measures require expert judgment, and evaluators may not assign precisely the same score. This is why writing portfolios are rated by at least two raters, and additional raters are used if initial scores differ substantially.

Validity. An indicator is valid when it accurately reflects the concept it is being used to measure. If a factor is very important, a single measure of it often is not sufficient. Multiple measures of different aspects at different points in time and large sample sizes help to boost validity and reliability.

Timeliness. Indicators should be available in enough time to inform decisions.

Cost effectiveness. The collection of indicators should not be unduly burdensome. The benefit of using an indicator should outweigh the time and money spent collecting and analyzing it. The common trade-off in cost effectiveness is whether it is better to use measures that are already being collected, rather than taking the time and expense to collect additional data.

What Types of Indicators Are Needed?

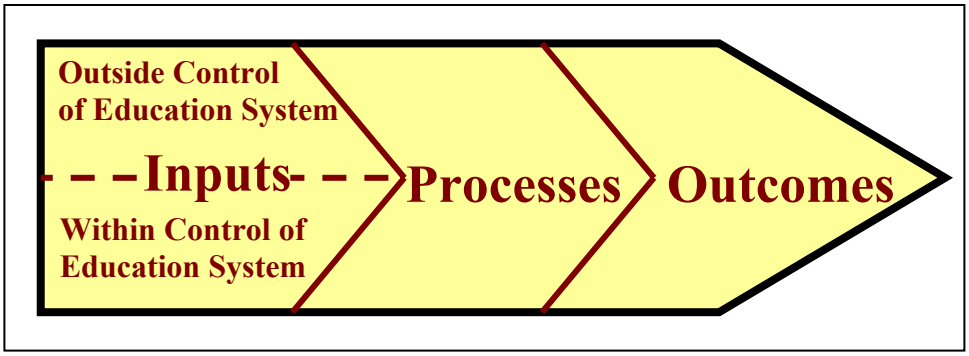
Indicators should represent the three main phases of education. These include inputs (such as student characteristics, resources, and such context factors as families and communities), processes (such as policies and practices), and outcomes (such as test scores and graduation rates).

Education is a transforming process in which policies, practices, and environmental qualities, operating at the student, classroom, school, and district levels, impact teaching and learning. Resources or inputs such as school buildings, teachers, books, and technology help develop each student's potential. At the same time, students bring inputs of their own, including abilities, attitudes, and the influences and resources of families and communities (Belfield).

Inputs controlled by the school and district, such as expenditures and teachers hired, are measured regularly, as are key outcomes throughout a student's education, such as test scores, retention, and graduation. In contrast, data on other inputs, such as family and community influences, are not easy to collect.

Figure 3.A illustrates, in simplified form, the phases of the education process for which indicators are needed.

Figure 3.A
Phases of Education for Which Indicators Are Needed



Source: Staff compilation based on concepts from the National Forum on Education Statistics' Forum Guide to Education Indicators.

Schools and districts can impact efficiency by acquiring and managing resources to achieve the highest level of outcomes. However, there is disagreement regarding the relative impact of different types of resources.

Schools and districts can impact efficiency in two places illustrated in Figure 3.A: inputs within the control of the education system and processes used to impact teaching and learning. A district is generally considered most efficient if it acquires the best available mix of educational inputs and then ensures that its processes make the best use of those inputs to achieve the highest level of outcomes. However, research offers conflicting advice regarding the types of resources needed and the potential impact of those resources (Hanushek. *The Failure*; Levin and McEwan).

Levels of Analysis

Ideally, a rigorous review of efficiency and effectiveness would examine every level of the education system, from the individual student to the classroom, teachers, grade, school, and district. Also important are state and federal policies and programs and their mandated outcomes.

Efficiency and effectiveness are affected by factors at every level—from the individual student to the classroom, teachers, grade, school, and district. Also important are state and federal policies and programs and their mandated outcomes. Ideally, a rigorous efficiency review would include indicators of the different types of influences at each of these levels.

Assuming student-level data is available, we can study such indicators as the student's participation in a particular combination of programs, instead of using less precise school-level measures of percent of students participating in each program. In addition, once individual student-level data are collected, contextual teacher-, class-, school-, and district-level data can be added. Research shows that important student characteristics, such as poverty status, should be taken into account when assessing the relationship

between expenditures and academic outcomes (Marzano. *A New Era* and *What Works*).

Comprehensive measurement of efficiency and effectiveness requires using indicators at multiple levels; incorporating information about individual students, schools, and districts; and where possible, including state and federal policies. Rigorous measurement also requires data that reflect the inputs, processes, and outcomes of education. Equally important are context indicators, also called control variables, which adjust for factors that the school or district cannot impact or change. Examples of context indicators include innate characteristics of the region in which the school is located, such as labor costs or community wealth.

Education finance experts have not reached consensus regarding the most accurate and fair method of measuring efficiency.

It is important to note that education finance experts have not reached consensus regarding the most accurate and fair method of measuring efficiency. Moreover, no criterion-referenced or standards-based efficiency measures were found in the literature. Regardless of the model, each organization's efficiency is evaluated by comparing it to others. Hence, efficiency models have the same advantages and disadvantages as norm-referenced student achievement tests. A major advantage to using norms is the "real-world" context they provide, which helps to avoid setting standards unrealistically high. On the negative side, an organization's efficiency measure depends entirely on the comparison group. For example, even if all organizations in the comparison group are relatively inefficient, the process of comparing each to the average can mean that roughly half will be labeled efficient (Koretz).

Descriptions of Indicators

To assess the multifaceted concepts of efficiency and effectiveness of education, measurement models require several types of indicators. First, efficiency measures must take into account factors that impact outcomes but that are relatively outside of educators' control. In addition, analyzing why some organizations are more efficient than others requires indicators of the inputs purchased with education dollars, such as facilities and teachers, and the processes, policies, and programs that implement teaching and learning.

The following section discusses these groupings and provides an overview of the types of indicators that are relevant with each. Appendix F lists these indicators, provides data sources, and reviews reliability and validity concerns. Given the complexities of the education system, not all indicators fit neatly into one

grouping, and they can be used in more than one way. For example, purchase and implementation of a reading program may be considered both an input and a process. Grouping is simply a device that helps organize and understand indicators. Since it is necessary to first set goals before choosing the means by which to meet those goals, this report discusses outcomes first, followed by inputs, and then indicators of the processes that make use of inputs to achieve the desired outcomes.

Outcome Indicators

Fair and effective accountability systems require indicators that are clear, specific, and within the control of those held accountable.

A fair and effective accountability system requires indicators that are clear, specific, and within the control of those held accountable. For this reason, general principles and laws that guide education are supplemented with progressively more specific standards, goals, objectives, and measurable indicators. At times it is not feasible to directly measure a particular outcome. For example, while a stated goal of the Kentucky education system is for schools to develop students' ability to become self-sufficient individuals with good character, our statewide assessment program does not attempt to measure those goals (KRS 158.6451). Voting rates and crime rates are only rough proxies for these goals. Table 3.1 lists outcome indicators that frequently appear in the education research literature.

Table 3.1
Outcome Indicators Related to Efficiency and Effectiveness

Category	Examples
Academic/Cognitive	
State Proficiency Test Scores	CATS grade 8 math test
NAEP Test Scores	Reading proficiency
College Readiness Test Scores	ACT scores
Nonacademic: Participation/Transition	
Participation Rates	Attendance, Graduation, Completion, Dropout Rates
Transition	Promotion to next grade; Full-time work after graduation
Composites of Several Measures	
State indicators	CATS Achievement Index, Accountability Index
Federal indicators	NCLB Annual Yearly Progress

Note: These indicators are illustrative of the types of measures that can be used to evaluate efficiency and effectiveness and are not intended to be exhaustive.
Source: Staff compilation based on the NCES Forum Guide and on a review of the education research literature on efficiency, effectiveness, and achievement.

As mentioned earlier, indicators of some education benefits are rarely used and therefore are not listed in this table. These include

outcomes that are either very difficult to measure, such as character or good citizenship, or indicators that are impacted by forces outside the control of the education system, such as crime rates.

Academic/Cognitive Indicators. College readiness tests and achievement tests, which may be either national or state-customized and either norm-referenced or criterion-referenced. Each type of test has strengths and weaknesses.

Nonacademic Indicators. Kentucky schools are held accountable for participation and transition indicators, such as student attendance, dropout, retention, and graduation rates. Another set of indicators often linked to pre-K-12 education includes those that demonstrate successful transition to adult life. School staff contact students about six months after they graduate to determine how many have made the transition to successful adult activities like postsecondary education, employment, or the military.

Multiple/Combined Measures. Given the multiple outcomes of education, there is widespread recognition that no single indicator is likely to capture all of the relevant concepts being studied. For this reason, an increasing number of researchers advocate using multiple indicators rather than attempting to measure a concept such as student performance with a single variable (Stiefel et al.). Since even the most carefully designed indicators can have some bias and fluctuations, combining multiple measures into one index or composite can improve validity and reliability.

The CATS Accountability Index, an overall summary measure of effectiveness, is relatively robust as a result of combining indicators that reflect each of Kentucky's major goals.

The CATS Accountability Index is an overall summary of the effectiveness of the education process, combining multiple measures: CATS test scores in each subject, norm-referenced tests, college readiness tests, attendance, retention, dropouts, graduation rates, and transition to adult life. Including all of these indicators encourages schools to focus on each of Kentucky's major goals and contributes to the robustness of the index.

High-stakes decisions are usually based on more than one measure and more than one point in time, to reduce the risk of being misled by random fluctuations.

Time Trends and Growth. A test score is a "sample of one," showing what students knew on that specific test on that specific day of the year. At the student level, a single test score is considered too fragile a measure for "high stakes" decisions, such as holding a student back a grade (Heubert and Houser 12). At the school and district levels, even when used in combination, outcome measures can fluctuate from year to year. As a result, high-stakes accountability decisions are usually based on more than one year of data.

Currently, most states assess achievement with "status models," which provide a "snapshot" at one point in time of the percent of students at or above proficiency. Concerned that this approach may ignore progress below and above the proficiency cut-off, many states are investigating the use of so-called growth models that follow a student's individual progress from year to year (Sanders).

Input Indicators

Inputs comprise a wide variety of factors, including financial and human resources; facilities and equipment; goods and services purchased by the educational system; student and family characteristics; and community characteristics.

Inputs comprise a wide variety of factors, including

- financial and human resources that go into the education system, as discussed in detail in Chapter 2;
- facilities, equipment, other capital;
- goods and services that the educational system buys;
- the student's individual and family characteristics; and
- characteristics of the surrounding community, such as crime rates, cultural opportunities, and the labor market, which affects the supply of human resources as well as job opportunities for graduates.

As with outcomes, the inputs listed in Table 3.2 exclude many factors that are important but very difficult to measure. These include student and staff personalities, attitudes, and management and learning styles; the school's social-psychological culture and climate; and certain policies and practices. However, one hard-to-measure factor—home environment—is included. This factor's impact on achievement may justify the extra trouble and expense required to measure it.

Table 3.2
Input Indicators Related to Efficiency and Effectiveness

Category	Examples
Financial	
Revenues	Local, State, Federal
Grants	Local, State, Federal
Expenditures	Object, Function
Use of Funds	Program, Project
Student Characteristics	
Prior Performance	Grades, Test Scores
Exceptional Performance	Special Education, Gifted/Talented
Demographics	Age, Gender, Ethnicity
Poverty	Free or reduced-price lunch
Mobility	Rate of transferring students
Parent and Family Characteristics	
Demographics	Income, Education
Home Environment	Adults read to student
Community/District Characteristics	
Demographics	Income, Education, Growth
Local Economy	Cost of Living, Unemployment
District Size	Number of schools and students
Type of Location	Urban/Suburban/Rural, High-Crime/Low-Crime
Support for Schools	Tax effort, parent participation
School Characteristics	
Student Composition	Free/reduced-price lunch, Ethnicity
Type of School	Elementary, middle, high
Size and growth rate of school	Enrollment; its percent change
Facilities, equipment, technology	Building Condition, PCs
Staffing	Number of Aides per Teacher
Teacher Characteristics	
Compensation	Salary & Benefits
Quality	Experience, Education, Certification, professional development
Quantity of Teachers	Student/Teacher Ratio
Retention	Early Retirement
School Leaders' Characteristics	
Compensation	Salary & Benefits
Quality	Experience, Education, Certification, Professional Development
Quantity of Administrators	Teacher/Administrator Ratio
Retention	Early Retirement

Note: These indicators are illustrative of the types of measures that can be used to evaluate efficiency and effectiveness. This compilation is not intended to be exhaustive.
Source: Staff compilation based on the NCES Forum Guide and on a review of the education research literature on efficiency, effectiveness, and achievement.

Student's Individual and Family Characteristics. Studies show that the student's past performance is a strong predictor of future performance. This highlights the cumulative nature of achievement, which is impacted by many factors. Schools are an obvious and important contributor to student performance, but other relevant influences include inherent and acquired abilities, personality, learning styles, and family and community influences (Marzano. *A New Era* and *What Works*).

It is important to adjust efficiency and effectiveness measures for differences in student's individual and family characteristics.

In 1966, a groundbreaking report found that schools have far less to do with achievement than student's individual and family characteristics (Coleman et al.). Subsequent research has suggested that schools have more impact than the Coleman report suggested, but many studies have corroborated the findings that student's individual and family characteristics are strong predictors of achievement. Accounting for individual student differences is, therefore, important when comparing the efficiency and effectiveness of different organizations. Substitutes for information that is difficult to collect, such as home environment, could be obtained from the "parental involvement" data available in Kentucky's School Report Cards. The data include information about participation in parent-teacher conferences, voting and participation by School Based Decision Making Councils, and information about volunteering in schools.

Human Resources. Numerous studies point to the critical impact that teachers have on achievement. Teacher quality is often defined in terms of years of experience, education, certification, and professional development. However, it is likely that better measures would involve such things as pedagogical skill, teachers' attitudes and opinions, control of classroom, and influence on school policies. These data are very difficult to collect. In addition, the quality of school leaders and staff impacts achievement (Tucker and Codding; Chubb and Moe).

School Characteristics. Achievement varies by such characteristics as the staffing, the size and type of school, the types and condition of facilities, the availability of technology, the community setting, and the mix of students.

Community/District Characteristics. Community characteristics impact students' attitudes, opportunities to learn, and psychological well-being, especially in crime-ridden neighborhoods. Programs that help families move to better neighborhoods improve students' health and behaviors, which in turn can impact achievement (Del Conte and Kling).

Process Indicators

Process indicators show how inputs are put to use to achieve the desired outcomes. They include the organization, management, climate, and other internal workings of the education system.

Process indicators are data on how schools and districts put inputs to use to achieve desired outcomes. Class size is an example of this type of measure. Process indicators include the organizational structure, policies, programs, management style, climate, and other internal workings of the schools and districts. These are listed in Table 3.3.

Table 3.3
Process Indicators Related to Efficiency and Effectiveness

Category	Examples
Teachers, Classes, Opportunities To Learn	
Class Characteristics	Class Size
Teacher Assignments	Classes, Types of Students
Teacher Absences	Professional Development days
Instruction Time	Block-Scheduling, 4-Day Week
Instructional Strategies	Homework, Note-taking
Academic Offerings	AP, Dual Credits
Course Content	Use of comprehensive and unified course coding system
Use of Technology for Instruction	Computer lab
School Climate, Policies, Organizational Structure	
Staffing	Teacher/Administrator Ratio, Student/Staff Ratio
Safety and Order	Incidents of Crime, Drugs
Disciplinary Practices	Rewards for Improved Behavior
Teachers' Influence on School Policies	Percent of Teachers in Committees
Graduation Requirements	Required math credits
Family & Community Engagement Programs & Initiatives	FRYSC, PTA
Co-Curricular and Extracurricular Activities	Athletics, Music, Art, Academic
Site Based Decision Making Council	Committees, Policies and Decisions
Pre-K-12 Programs	
Extended School Services (ESS)	Percent of students in special reading programs
Limited English Proficiency	Non-English Speakers
IDEA-B	Percent Special Needs Students
Gifted and Talented	Students in performing arts
Alternative School	Enrollment in Alternative School
Alternative Classroom	Students needing credits recovery
Technology	Student/Computer Ratio
Migrant	Transfers within/outside district

Note: These indicators are illustrative of the types of measures that can be used to evaluate efficiency and effectiveness. This compilation is not intended to be exhaustive.
Source: Staff compilation based on the NCES Forum Guide and on a review of the education research literature on efficiency, effectiveness, and achievement

To this point, Chapter 3 has reviewed important reliability and validity issues and discussed the indicators of outputs, inputs, and processes that are most relevant to the analysis of educational efficiency and effectiveness. These are useful in describing the educational environment, but examined individually, they provide little information about efficiency. The next section describes models that use the indicators in combination to gauge efficiency.

Measuring Efficiency and Effectiveness

An efficiency model utilizes data collected at the school and district levels to calculate statistics on how effective districts and schools are at reaching their educational goals. There are numerous models for gauging efficiency; the five models described briefly in this section are representative of the most commonly used methods in education research. If the General Assembly directs that an efficiency study be conducted, a more comprehensive review of these models, and an analysis of which models would be more appropriate for the data available in Kentucky, would be required.

This section begins with a discussion of the characteristics of a good model followed by a brief overview of the data needed to generate the most accurate measurements produced by the models.

Characteristics of a Good Model

Ideally, efficiency models should use student-level data; recognize the nested nature of education data; estimate outcomes over time; have a flexible form; estimate improvements and changes in resources; and adjust for regional differences.

A review of the education research identifies at least six characteristics that are generally viewed as making important contributions to effective measurement of efficiency and effectiveness (Baker et al.). These are listed below.

Student-level Data. In studies of efficiency, models should use student-level data if available. Without student-level data, research must rely on school- or district-level data. Data aggregated to the district or state level cannot show variation in individual-level performance and may exaggerate the effectiveness that resources have on student outcomes (Hanushek, Rivkin, and Taylor 612).

Nested Data. Researchers call education data "nested" because students are placed within classrooms, which are located within schools, which are located within districts. Models should recognize and accommodate this data structure so that it is possible to identify which indicators have the greatest impact and whether they are at the individual, class, school, or district level.

Changes Over Time. Models of education efficiency should account for past performance. As an example, if the education outcome of interest is test scores, an appropriate way to measure this would be the student performance gain from one test to the next (Hanushek. "The Economics of Schooling" 1156-1157).

Improvements and Changes in Resources. Models should estimate the improvements in student performances from one time period to the next that coincide with changes in resources rather than simply looking at the association between resources and test scores for a single point in time.

Flexibility. Models should be flexible in order to account for complicated relationships between student performance and school resources. Models built on the assumption that increases in inputs such as funding or teachers result in a corresponding increase in outcome levels may not be flexible enough to identify more complex relationships between indicators.

Regional Differences. Input variables used in models should be adjusted for regional differences in purchasing power across school districts. While this is difficult to do, there have been several attempts to create regional cost indicators for this purpose.

Data Needs

Student-level longitudinal data are best for efficiency studies. In the absence of these data, efficiency studies often must rely on school-level or district-level data, which may reduce the precision of models.

Student-level longitudinal data are best for efficiency studies. These data match each student's educational outcomes to the student's teacher, school, family, and community. In addition, the data are recorded consistently on an annual or semiannual basis. In the absence of these data, efficiency studies often must rely on school-level or district-level data, which may reduce the precision of models.

Examples of Models of Efficiency and Effectiveness

This section describes five methods currently used in education research to study efficiency. Two examples are relatively simple models with a limited number of indicators, and three examples are more complex statistical models that employ multiple indicators. The models are the SchoolMatters's Return on Spending Index from Standard & Poor's (S&P), Yecke's Efficiency/Effectiveness Index, SchoolMatters's Error Band Model, Massachusetts's Effectiveness Index, and Education Productivity Models.

SchoolMatters's Return on Spending Index

The SchoolMatters's Return on Spending Index is a ratio of math and reading proficiency rates to per-pupil core spending. It represents the proportion of students scoring proficient in math and reading per $1,000 of core spending.

As discussed in Chapter 1, one of SchoolMatters's efficiency models is called Return on Spending Index, or RoSI, which represents the proportion of students scoring proficient in math and reading achieved per $1,000 of core spending.

The formula is

$$\text{RoSI} = \frac{\text{Math \& Reading Proficiency}}{\text{Core Spending Per Pupil}} \text{ X } 1{,}000$$

RoSI is the ratio of combined math and reading proficiency rates divided by core spending per student. Math and reading proficiency rates are averaged together according to the number of students who took the exams, and core spending is composed of Instruction, Instructional Staff Support, General Administration, School Administration, Pupil Support, Operations and Maintenance, and Other Support Service expenditures.

RoSI is a productivity statistic used to identify economically efficient schools. Presumably, schools having high RoSIs are more productive than schools with low RoSIs; however, S&P recommends that RoSI be used with other statistical methods to control for factors that may limit RoSI's ability to predict school efficiency by itself (SchoolMatters. "Measuring Educational Productivity" 3). This is because RoSI does not include any input or process measures that may relate in important ways to efficiency.

The simplicity of this model is both its advantage and drawback. It is relatively easy to construct and is best used as an instrument to measure a school's progress over time. However, it has limited application for cross-school comparisons if schools have substantially different characteristics.

Yecke's Efficiency/Effectiveness Index

The Efficiency/Effectiveness Index is the ratio of graduation rates to expenditures, controlling for district poverty. Districts with high EEI scores are more efficient.

The Efficiency/Effectiveness Index (EEI) is a productivity model based on the ratio of graduation rates to expenditures (Yecke). It was used in Minnesota to identify efficient and effective districts. EEI is constructed by sorting school districts into four equal-sized quartile groups based on poverty levels. Specifically the formula is as follows:

.

$$\text{EEI} = \frac{\text{(District graduation rate)} \div \text{(quartile average graduation rate)}}{\text{(District per pupil costs)} \div \text{(quartile average per pupil costs)}} \text{ X } 100$$

The numerator of the EEI is a ratio of the school district's graduation rate divided by the average graduation rate of the districts within the quartile. Similarly, the denominator is a ratio of the districts per-pupil cost divided by the average per-pupil costs of the districts within the quartile. The numerator and denominator are formed into a fraction, which is then multiplied by 100.

The interpretation of the EEI is based on the value of 100. Those districts with an EEI of 100 are at the average among its peer districts. When the EEI for a school district is less than 100 or more than 100, then that school district has a lower or higher efficiency/effectiveness ratio than its peers.

The virtues of this model are that it controls for school district differences in student poverty, and it is relatively easy to construct. The drawback of this model is its limitation for cross-district comparisons. Aside from poverty (as measured by the number of students eligible for free and reduced-price lunches), it does not control for district demographics. In addition, the model's design makes it impractical to compare districts outside the individual poverty quartiles.

SchoolMatters's Error Band Model

The SchoolMatters Error Band Model identifies schools and districts that perform better or worse than expected, given their percent of students who receive free or reduced-price lunches.

Standard & Poor's education evaluation service, SchoolMatters, has developed a modeling procedure called the Error Band method. This model identifies high-performing and low-performing schools that operate outside what is called a "performance zone." A performance zone is a range of acceptable scores on math and reading tests.

Data on the number of economically disadvantaged students and their test scores are used to predict a school's performance. A school is judged high performing if its scores are higher than would be expected, given its level of poverty. Similarly, a school is low performing if its scores are lower than expected based on its student poverty levels.

The benefit of this model is that in theory, by studying the activities of high-performing schools, best practices can be developed for the low-performing schools with the similar percentages of economically disadvantaged students. The Error Band Model has been criticized for its lack of indicators. It has been shown that accuracy improves when more indicators are used (Baker et al. 8-19).

Massachusetts's Effectiveness Index

The Massachusetts Effectiveness Index identifies schools that perform better or worse than expected considering six demographic characteristics of the surrounding community.

The Massachusetts Effectiveness Index (EI) identifies schools that perform better or worse than expected on the Massachusetts Comprehensive Assessment System (MCAS) exam given the schools demography (Gaudet. "Effective" 2000, 2001, 2002, 2003). This model is similar to the Error Band Model but it uses up to six demographic indicators to predict school performance.

Each school receives an Effectiveness Index. The index is constructed by taking the difference between the school's actual performance on the MCAS and the one predicted by the EI, which accounts for the school's demographic characteristics. [1] If a school's EI is positive, then the school is performing above its demographic expectations. If a school's EI is negative, then the school is performing below its demographic expectations.

The benefit of this model is that it includes several indicators to control for community characteristics; however, its main drawback is that it does not include indicators to control for differences in student, family, and school demographics.

Education Productivity Models

Education productivity models, which emphasize the transformation process of education, predict educational outcomes and estimate the impact of student, family, school, and teacher characteristics.

The education productivity models are among the most widely used models for gauging school efficiency. These models use fairly complex statistical equations involving multiple indicators to control for student, family, school, and community characteristics. The strength of the approach is that it allows one to calculate the contribution of specific indictors in producing educational outcomes. For example, using a productivity model, researchers have estimated the impact of spending levels for specific programs and the relationship of particular class sizes to student performance. The drawback to these models is that they rely on advanced statistical methods that are not well known outside the research community.

Appendix G summarizes the models described here and reviews their use of indicators. As noted above, any attempt to conduct an efficiency study would require a more comprehensive and detailed analysis of appropriate models.

[1] Small schools with fewer than 45 students are excluded from the analysis. The author cites that the small sample size of these schools add significant error to analysis (Gaudet. "Effective" 2003, 3).

Conclusion

This chapter discussed the types of indicators that can be used to measure the efficiency and effectiveness of schools and districts. Data concerns and criteria are reviewed, and the specific types of indicators needed to study efficiency—outcomes, inputs, and processes—are described. The chapter also indicates the characteristics of a good model and the data needed to accurately gauge efficiency. Five models that are representative of commonly used approaches in education research are then introduced.

Appendix F provides a comprehensive listing of education indicators, notes whether the data are available in Kentucky, and outlines reliability and validity concerns that should be addressed.

Chapter 1 listed a number of policy questions that the federally-funded Consortium for Policy Research in Education has identified as fundamental issues that must be addressed in order to define and analyze education efficiency. This report addresses these policy questions that include sources and levels of education resources; teacher pay and distribution patterns; and spending for instruction, administration, and other services.

The final question posed by the consortium is "How do districts that maintain higher levels of student achievement use their dollars?" This is the central issue in most education efficiency and effectiveness reviews. A related question is how high-performing districts that face situations that normally lead to reduced performance—such as high poverty rates, low community wealth, or relatively greater numbers of students with limited English proficiency—are able to show continued improvement over time. These questions are not answered in the present report because they are beyond the scope of the study parameters set by the General Assembly.

There are some data limitations and tradeoffs with indicators and models, but it is possible to measure efficiency and effectiveness using the data and methods reviewed in this report.

As indicated in this study, there are limitations as well as reliability and validity concerns regarding available education data. There are also strengths and weaknesses in efficiency and effectiveness indicators and in statistical models of efficiency. Despite these limitations, this study has found that it is possible to measure efficiency and effectiveness using available data and methods reviewed in this report. However, precise estimates of school and district efficiency will require improvements to the education data that are currently collected by the Commonwealth.

Recommendations

Based on the analysis of Kentucky's education data presented in this report, the Office of Education Accountability recommends that KDE review and take steps to address the problems and concerns raised in Chapter 2 and described in detail in Appendix E. OEA also recommends that KDE consider improvements to its current data integrity efforts, including stricter enforcement of accounting protocols and monitoring of district compliance. Data consistency would be enhanced if KDE would follow the lead of NCES and of many other states in offering detailed descriptions and examples within its Chart of Accounts to serve as a guide as districts code revenues and expenditures. Similarly, it is evident from the review of districts' Annual Financial Reports that financial staff and others involved in school and district accounting activities would greatly benefit from regular training provided by KDE.

Finally, OEA recommends that KDE consider requiring districts to use lower-level function, object, and program codes. In order to analyze the efficiency and effectiveness of educational expenditures, much more detail is needed on these specific components of education expenditures.

Works Cited

Baker, Bruce D., Preston E. Green, and Craig E. Richards. "Production, Cost and Efficiency." in Financing Education Systems. Upper Saddle River, NJ: Prentice-Hall. Forthcoming 2008.

Belfield, Clive R. *Economic Principles for Education: Theory and Evidence*. Northampton, MA: Edward Elgar Publishing 2000.

Card, David, and Alan B. Krueger. "Does School Quality Matter? Returns to Education and the Characteristics of Public Schools in the United States." *Journal of Political Economy*, 100.1 (1992): 1-40.

Chubb, J.E., and T.M. Moe. *Politics, Markets, and America's Schools.* Washington, DC: The Brookings Institution, 1990.

Coleman, James S., E.Q. Campbell, C.J. Hobson J., McPartland, A.M. Mood, F.D. Weinfield, and R.L York. *Equality of Educational Opportunity.* Washington, DC: U.S. Government Printing Office, 1966.

Commonwealth of Kentucky. Auditor of Public Accounts. "Audit Reports Database." <http://www.auditor.ky.gov/Public/Audit_Reports/Audit_Report.asp> (accessed Aug. 24, 2006).

---. Council on Postsecondary Education. *Key Indicators: Operational Definitions*. Frankfort: Council on Postsecondary Education. Not dated. <http://cpe.ky.gov/NR/rdonlyres/8FA809EC-EDF2-44DE-B8DB-B3817EB4DDA4/0/KIOperationalDefinitions3.pdf> (accessed Feb. 8, 2007).

---. Department of Education. *Annual Financial Reports*. <http://www.education.ky.gov/KDE/Administrative+Resources/Finance+and+Funding/School+Finance/Annual+Financial+Reports.htm> (accessed Aug. 4, 2006).

---. ---. *Chart of Accounts*. <http://www.education.ky.gov/KDE/Administrative+Resources/Finance+and+Funding/School+Finance/Chart+of+Accounts.htm> (accessed Nov. 1, 2005).

---.---.*Pupil Attendance Manual*. 2006. <http://www.education.ky.gov/KDE/Administrative+Resources/Finance+and+Funding/School+Finance/Pupil+Attendance+Manual.htm> (accessed Aug. 23, 2006).

---. ---. *Receipt and Expenditure Files*. Various years. <http://www.education.ky.gov/KDE/Administrative+Resources/Finance+and+Funding/School+Finance/Annual+Financial+Reports.htm> (accessed Nov. 1, 2005).

---. ---.*School Checklist, Family and Community Engagement*. Frankfort. 2004. <http://www.education.ky.gov/SISI_Toolkit/Standard%205/Documents/School%20Checklist.doc> (accessed Aug. 23, 2006).

---.---.---. *School Report Cards*. 2006. <http://www.education.ky.gov/KDE/About+Schools+and+Districts/School+Report+Cards/default.htm> (accessed Aug. 23, 2006).

---. ---. *Standards and Indicators for School Improvement*. <http://www.education.ky.gov/KDE/Administrative+Resources/School+Improvement/Standards+and+Indicators+for+School+Improvement/default.htm> (accessed Nov. 1, 2005).

---. ---. "State Funding Matrices for Federal Competitive, Non-competitive, and State Grants." <http://www.education.ky.gov/KDE/Administrative+Resources/School+Improvement/Comprehensive+Improvement+Planning/Funding+and+Finance.htm> (accessed Nov. 1, 2005).

---. ---. Office of District Support Services. *Finance Newsletter*. Oct. 2005.

---. Education Professional Standards Board. "Certification." <http://www.kyepsb.net/certification/standardrankchange.asp> (accessed Aug. 1, 2006).

---. Legislative Research Commission. Office of Education Accountability. *2005 School Finance Report*. Research Report No. 355. Frankfort LRC. 2006.

---.---.---. *A Review of the School Facilities Construction Commission*. Research Report No. 332. Frankfort: LRC. 2006.

Commonwealth of Virginia. "Challenges Discovered." *School Efficiency Reviews*. 2006:1. <http://www.vaexcels.governor.virginia.gov/accomplishments/accomplishments-SER.cfm> (accessed May 17, 2006).

Costrell, Robert. Equity v. Equity: "Why Education Week and Education Trust Don't Agree". *Education Next*. Hoover Institute: Palo Alto, CA. <http://www.hoover.org/publications/ednext/3219926.html> (accessed March 5, 2006).

Darling-Hammond, Linda. "Teacher Quality and School Student Achievement: A Review of State Policy Evidence," *Education Policy Analysis Archives*, 8.1(Jan. 2000):1-46. <http://epaa.asu.edu/epaa/v8n1/> (accessed May 17, 2006).

Del Conte, A. and J. Kling. "A Synthesis of MTO [Moving to Opportunity] Research on Self-Sufficiency, Safety and Health, and Behavior and Delinquency." *Joint Center for Poverty Research Newsletter*, 5.1(2001).

Education Week. *Quality Counts 2006*. Bethesda, MD: Editorial Projects in Education 2006.

First Class Education. *Active States*. <http://www.firstclasseducation.org/activestates.asp> (accessed May 22, 2006).

--. *FAQs*. <http://www.firstclasseducation.org/faqs.asp> (accessed May 22, 2006).

Gaudet, Robert D. "Effective School Districts in Massachusetts: A Study of Student Performance Relative to District Demography on the 1999 MCAS Assessments." The Second Annual Report, Sponsored by the University of Massachusetts Donahue Institute. March 2000.

---. "Effective School Districts in Massachusetts: A Study of Student Performance Relative to District Demography on the 2000 MCAS Assessments." The Third Annual Report, Sponsored by the University of Massachusetts Donahue Institute. Feb. 2001.

---. "Effective School Districts in Massachusetts: A Study of Student Performance Relative to District Demography on the 2001 MCAS Assessments." The Fourth Annual Report, Sponsored by the University of Massachusetts Donahue Institute. March 2002.

---. "Effective School Districts in Massachusetts: A Study of Student Performance Relative to District Demography on the 2002 MCAS Assessments." The Fifth Annual Report, Sponsored by the University of Massachusetts Donahue Institute. June 2003.

Goodman, Josh. E-mail communication. Jan. 27, 2006.

Governing Magazine. *State and Local Sourcebook 2005*. Washington, DC: Congressional Quarterly, 2005.

Guthrie, James W. "'Modern' Education Finance: How it Differs from the 'Old' and the Analytic and Data Collection Changes it Implies." *Education Finance and Policy,* 1(2006): 3-16.

Grissmer, David W. *Education Productivity*. Washington, DC: Council for Educational Development and Research, 1998.

Hanushek, Eric A. "Can Equity be Separated from Efficiency in School Finance Debates." *Essays on the Economics of Education.* Emily P Hoffman, ed. Kalamazoo, MI: W. E. Upjohn Institute for Employment Research, 1993. 35-68.

---. "The Economics of Schooling: Production and Efficiency in Public Schools." *Journal of Economic Literature*, 49.3(1986): 1141-77.

---. "The Failure of Input-based Schooling Policies." *Economic Journal*, 113.485(2003): F64-98.

Hanushek, Eric A., Steven G. Rivkin, and Lori L. Taylor. "Aggregation and the Estimate Effects of School Resources." *The Review of Economics and Statistics*, 78.4 (1996):611-627.

Heubert, Jay P., and Robert M. Hauser, eds. *Testing For Tracking, Promotion, And Graduation*. Committee on Appropriate Test Use, National Research Council. Washington, DC: National Academy Press, 1999.

Hoff, David J. "Texas Proposes Classroom Costs Per '65 Percent" Plan. *Education Week*, 25.32 (April 19, 2006): 23-24.

Hogge, Susan L. *School Efficiency Reviews*. Presentation to the Virginia Interim Appropriations Committee. Oct. 18, 2004. <http://hac.state.va.us/Committee/OtherPresentations/2004/October_18/School_Efficiency_Reviews--10-18-04.pdf> (accessed May 30, 2006).

Jago, E., and Tanner, K. "Influence of the School Facility on Student Achievement." Atlanta: University of Georgia, 1999. <http://www.coe.uga.edu/sdpl/researchabstracts/visual.html> (accessed Aug. 23, 2006).

Johnson, Frank. Project Director, NCES Common Core of Data. Personal conversation. Aug. 11, 2006.

Kennedy, John, and Leslie Porter. "65% -- Is it a Solution?" *Orlando Sentinal.* Nov. 15, 2005. <http://www.firstclasseducation.org/whats_new_2.asp#a2> (accessed May 22, 2006).

Koretz, Daniel M. Statement before the Committee on Education and the Workforce. United States House of Representatives. Feb. 23, 1998. <http://www.house.gov/ed_workforce/hearings/105th/fc/test22398/koretz.htm> (accessed Aug. 18, 2006).

Kressin, N.R., B.H.Chang, A.Hendricks, and L.E. Kazis. "Agreement between administrative data and patients' self-reports of race/ethnicity." *American Journal of Public Health* 93 (2003): 1734-1739.

Krueger, Alan B. "Understanding the Magnitude and Effect of Class Size on Student Achievement." *The Class Size Debate*. Mishel Lawrence and Richard Rothstein, eds. Washington, DC: Economic Policy Institute, 2002.

---.. "Economic Considerations and Class Size." *Economic Journal*. 113.485 (2003): F34-63.

Levin, Henry M., and Patrick J. McEwan, eds. *Cost-Effectiveness and Educational Policy*. American Education Finance Association 2002 Yearbook. Larchmont, NY: Eye on Education, 2002.

Marzano, Robert J. *A New Era of School Reform: Going Where the Research Takes U*s. ERIC Document Reproduction Service. No. ED454255. Aurora, CO: Mid-continent Research for Education and Learning, 2000.

---. *What Works in Schools: Translating Research into Action*. Alexandria, VA: ASCD Association for Supervision and Curriculum Development, 2003.

National Association of State Budget Officers. *School Spending Efficiency Studies*. March 1, 2006. <http://www.nasbo.org/Publications/Publications/PDFs/Schools%20Efficiency%20Studies.pdf> (accessed May 31, 2006).

National Center for Public Policy and Higher Education. *Measuring Up 2004: The National Report Card on Higher Education*. <http://www.highereducation.org/> (accessed Feb. 3, 2006).

---. *Technical Guide Documenting Methodology, Indicators, and Data Sources for Measuring Up 2004.* <http://measuringup.highereducation.org/docs/technicalguide_2004.pdf>(accessed Feb. 2, 2006).

National Conference of State Legislatures. Education Programs. Charter Schools. <http://www.ncsl.org/programs/educ/CharterMain.htm> (accessed April 25, 2006).

National Forum on Education Statistics. *Forum Guide to Education Indicators.* NFES 2005-802. Washington, DC: National Center for Education Statistics, U.S. Department of Education, 2005.

National Institute for Early Education Research. *The State of Preschool: 2005 State Preschool Yearbook*. <http://nieer.org/yearbook/pdf/yearbook.pdf> (accessed May 30, 2006).

Ninan, Matthew. *School Climate and Its Impact on School Effectiveness: A Case Study*. International Congress for School Effectiveness and Improvement. Fort Lauderdale, FL.Jan. 4, 2006. <www.leadership.fau.edu/icsei2006/Papers/Ninan.pdf> (accessed March 30, 2006).

Odden, Allan, David Monk, Yasser Nakib, and Lawrence Picus. "The Story of the Education Dollar: No Academy Awards and No Fiscal Smoking Guns." *Phi Delta Kappan*, 1995. "<http://www.pdkintl.org/kappan/k_v77/k9510odd.htm> (accessed January 31, 2006).

Pan, Diane, Lotte Smith-Hansen, Debra Jones, Zena Rudo, Celeste Alexander, and Rahel Kahlert. 2004. *Investigation of Education Databases in Four States to Support Public Policy Research on Resource Allocation.* Austin, TX: Southwest Educational Development Laboratory. <http://www.sedl.org/pubs/library_publications.html> (accessed May 29, 2006).

Pedhazur, Elazar J., and Liora P. Schmelkin. 1991. *Measurement, Design, and Analysis: An Integrated Approach*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Perry, Yvette. E-mail correspondence between OEA staff and KDE staff. March 15, 2006.

Picus, Lawrence O. 2000. *How Schools Allocate and Use Their Resources*. ERIC Digest 143. <http://cepm.uoregon.edu/publications/digests/digest143.html> (accessed Aug. 31, 2005).

---. 2001. *In Search of More Productive Schools: A Guide to Resource Allocation in Education*. Eugene, OR: ERIC Clearinghouse on Educational Management, University of Oregon.

Red Bank Public Schools. "Plan For a Total School System Commitment to the Effective Schools Research and School Improvement Process." <http://www.rbb.k12.us/documents/Master_Plan.doc> (accessed March 16, 2006).

Rice, Jennifer K. "Cost Analysis in Education Policy Research: A Comparative Analysis Across Fields of Public Policy." *Cost-Effectiveness and Educational Policy.* Henry M. Levin and Patrick J. McEwan, eds. American Education Finance Association 2002 Yearbook. Larchmont, NY: Eye on Education, 2002:21-36.

Rivkin, Steven G., Eric Hanushek, and John F. Kain. 2001. "Teachers, Schools, and Academic Achievement." Working Paper Series, No. 6691 (revised). Washington, DC: National Bureau of Economic Research.

Sanders, William L. 2006. Testimony. "Can Growth Models Ensure Improved Education for All Students." July 27, 2006. Hearing on No Child Left Behind. Committee on Education and the Workforce. U.S. House of Representatives. <http://www.house.gov/ed_workforce/hearings/109th/fc/nclb072706/sanders.htm> (accessed on August 7, 2006).

Scheerens, Jaap. School Effectiveness in Developed and Developing Countries; A Review of the Research Evidence. June 1999. <www1.worldbank.org/education/est/resources/topic%20papers/jaap699.doc> (accessed March 30, 2006).

SchoolMatters. "Measuring Educational Productivity in Standards-Based Accountability Systems: Introducing the SES Return on Spending Index (RoSI)." *Research Methods and Metrics series*, 3 (April 2005). New York: www.schoolmatters.com 2005.

---. *State Reports*. Washington, DC: Standard & Poor's, 2005 and 2006. <http://www.schoolmatters.com/app/compareresults/q/stid=18/site=pes/llid=116/stllid=18/locid=-1/adv=false/sel=987146/sel=987091/sel=987123> (accessed Feb. 3, 2006).

---. *The Issues and Implications of the "65 Percent Solution."* Washington, DC: Standard & Poor's. <www.SchoolMatters.com> (accessed Jan. 17, 2006).

Shook, Michael. *Overview of School Efficiency Review Program*. Presented to the Virginia House Appropriations Committee, Subcommittee on Elementary and Secondary Education. Jan. 24, 2006. <http://hac.state.va.us/Subcommittees/Elementary-SecondaryEducation/2006/01-24-06/SchoolEfficiencyReviews--1-24-06.pdf> (accessed May 31, 2006).

State of Maine. Department of Education. Task Force on Increasing Efficiency and Equity in the Use of K-12 Education Resources. *Final Report.* January 20, 2004. <http://www.usm.maine.edu/cepare/pdf/ts/Final%20Report%201-20-04.pdf> (accessed May 30).

State of Texas. Legislative Budget Board. School Performance Review Audit Protocols. <http://www.llb.state.tx.us/TSPRP/Other/Audit_Protocols_PubEd/AuditProtocolPublicEd.pdf> (accessed May 31).

Stiefel, Leanna, Amy Ellen Schwartz, Ross Rubenstein, and Jeffrey Zabel. "Measuring School Efficiency: What Have We Learned?" *Measuring School Performance and Efficiency: Implications for Practice and Research*. Larchmont, NY: Eye on Education 2005.

Tucker, M.S., and J.B. Codding. *The Principal Challenge: Leading and Managing Schools in an Era of Accountability*. Hoboken, NJ: Jossey-Bass, 2002.

United States. Census Bureau. Annual Survey of Local Governments. *Public Education Finances*. 2002 and 2004.

---. ---. *Government Finance and Employment Classification Manual*.2002.

---. Department of Education. National Center for Education Statistics. *Assessment and Analysis of School-Level Expenditures.* Working Paper No. 96-19. Joel D. Sherman, Clayton Best, and Lawrence Luskin. William Fowler, project officer. Washington, D.C. 1996. <http://nces.ed.gov/pubs/web/9619.asp> (accessed Jan. 17, 2006).

---. ---.---. *Financial Accounting for Local and State School Systems*. 2003 Edition (NCES 2004-318). Core Finance Data Task Force. The National Forum on Education Statistics. Project Officer: Frank Johnson. Washington, DC: 2003.

---.---.---. *How the Samples of Schools and Students are Selected for the Main Assessments (State and National)*. Washington, DC: NCES. 2004. <http://nces.ed.gov/nationsreportcard/about/nathow.asp> (accessed Aug. 23, 2006).

---. ---. ---. "NCES History of the Handbooks." *Handbooks Online.* <http://nces.ed.gov/programs/handbook/handbook_history.asp> (accessed Jan. 21, 2006).

---. ---. ---. "Revenues and Expenditures for Public Elementary and Secondary Education: School Year 2002-03." *Statistics in Brief*, Report 362. Washington, DC., 2003.

---. ---. ---. *National Public Education Financial Survey Instruction Booklet*. Feb. 2004.

---. ---. ---. "The Work of the National Center for Education Statistics." *Education Statistics Quarterl*y, 7.1 and 7.2 (2005). <http://nces.ed.gov/programs/quarterly/vol_7/1_2_1.asp> (accessed April 11, 2006).

---. Office of Education Research. National Institute on Educational Governance, Finance, Policymaking and Management. *Meeting the Information Needs of Education Policymakers*. Washington, DC: US Department of Education. Office of Educational Research and Improvement, GFI, 1997, 97-9504.

Wyatt, Tim. "School Effectiveness Research: Dead End, Damp Squib, or Smouldering Fuse?" *Issues in Educational Research*, 6.1 (1996): 79-112. <http:// www.iier.org.au/iier6/wyatt.html> (accessed March 30, 2006).

Yecke, Cheri Pierson. "Efficiency and Effectiveness in Minnesota School Districts: How Do Districts Compare?" Center of the American Experiment. Feb. 11, 2005. <http://www.americanexperiment.org/uploaded/files/educationefficiency.pdf> (accessed Jan. 13, 2006).

Appendix A

Sources of 50-State Public Elementary and Secondary Education Data From the National Center for Education Statistics

Topic	Reporting Level			
	School/ institution	School district	State	National
Students	Common Core of Data Early Childhood Longitudinal Study-Kindergarten Class of 1998-99	Common Core of Data School District Data Book	Common Core of Data, School District Data Book	Common Core of Data National Longitudinal Study of the High School Class of 1972 High School and Beyond Longitudinal Study National Education Longitudinal Study of 1988 Education Longitudinal Study of 2002 Trends in International Mathematics and Science Study Third International Mathematics and Science Study-Repeat National Assessment of Educational Progress, Early Childhood Longitudinal Study-Kindergarten Class of 1998-99 Early Childhood Longitudinal Study-Birth Cohort of 2001 Fast Response Survey System School District Data Book National Household Education Surveys Program NAEP High School Transcript Study School Crime Supplement to the National Crime Victimization Survey Progress in International Reading Literacy Study Current Population Survey Program for International Student Assessment Civic Education Study
Teachers/staff	Common Core of Data	Common Core of Data	Common Core of Data, National Assessment of Educational Progress, Schools and Staffing Survey	Common Core of Data Schools and Staffing Survey National Assessment of Educational Progress High School and Beyond Longitudinal Study National Education Longitudinal Study of 1988 Education Longitudinal Study of 2002 Early Childhood Longitudinal Study-Kindergarten Class of 1998-99 Early Childhood Longitudinal Study-Birth Cohort of 2001 Trends in International Mathematics and Science Study Third International Mathematics and Science Study-Repeat Fast Response Survey System Baccalaureate and Beyond Longitudinal Study

Topic	Reporting Level			
	School/ institution	School district	State	National
Public schools	Common Core of Data	Common Core of Data	Common Core of Data, Schools and Staffing Survey	National Assessment of Educational Progress, Trends in International Mathematics and Science Study, Third International Mathematics and Science Study-Repeat, Fast Response Survey System, Common Core of Data, Schools and Staffing Survey, High School and Beyond Longitudinal Study, National Education Longitudinal Study of 1988, Education Longitudinal Study of 2002, Early Childhood Longitudinal Study-Kindergarten Class of 1998-99, Early Childhood Longitudinal Study-Birth Cohort of 2001, School Survey on Crime and Safety
Public agency finances		Common Core of Data	Common Core of Data	Common Core of Data
School libraries			Schools and Staffing Survey	Schools and Staffing Survey, Education Longitudinal Study of 2002
Assessment			National Assessment of Educational Progress	National Assessment of Educational Progress, National Longitudinal Study of the High School Class of 1972, High School and Beyond Longitudinal Study, National Education Longitudinal Study of 1988, Trends in International Mathematics and Science Study, Third International Mathematics and Science Study-1999 Trends in International Mathematics and Science Study Progress in International Reading Literacy Study, Early Childhood Longitudinal Study-Kindergarten Class of 1998-99, Early Childhood Longitudinal Study-Birth Cohort of 2001, Program for International Student Assessment, Civic Education Study
Parents				National Education Longitudinal Study of 1988, High School and Beyond Longitudinal Study, Education Longitudinal Study of 2002, Early Childhood Longitudinal Study-Kindergarten Class of 1998-99, Early Childhood Longitudinal Study-Birth Cohort of 2001

Notes: The Current Population Survey is a U.S. Census Bureau survey used in NCES studies. The School Crime Supplement to the National Crime Victimization Survey is administered jointly by NCES and the Bureau of Justice Statistics.
Source: U.S. Dept. of Ed. National. "The Work." 4-5.

Appendix B

Sources of Public Elementary and Secondary Education Data in Kentucky

Source Agency	Data Type	Data Source	Data Description
Kentucky Department of Education (KDE)	Fiscal	MUNIS	Revenues and expenditures based on a chart of account structure, reported by fund, unit, function, program, instructional level, object, and project. Types of reports generated by districts and electronically submitted to KDE include budgets, year-end financial reports, and grant reports.
KDE	Fiscal, Demographic	MUNIS	Certified and classified personnel salary and demographic data
KDE	Nonacademic	STI	School calendar
KDE	Nonacademic	STI	Superintendents' Annual Attendance Reports (SAAR) provide average daily attendance, average daily membership, enrollment, and percentage of attendance.
KDE	Nonacademic, demographic	STI	Student and staff data
KDE	Academic		Student academic performance data
KDE	Nonacademic		Nonacademic data available at school and district levels include attendance rates, dropout rates, graduation rates, retention rates, and transition to adult life.
Education Professional Standards Board (EPSB)	Nonacademic	LEAD Report	Local Educator Assignment Data (LEAD) identifies teachers/administrators that fall into the following categories: hold statement of eligibility only, out of grade range, never certified, expired or no current certificate, out of field, out of population, out of job function, and national board certification.
School Facility Construction Commission (SFCC)	Fiscal		SFCC issues offers of assistance to school districts once each biennium to use for facility needs. The offers of assistance are based on state bonding authorization and are calculated based on districts' percentages of total state unmet need.
Kentucky Center for School Safety (KCSS)	Nonacademic, demographic		KCSS annually reports demographic data regarding student disciplinary actions.
Kentucky Council on Postsecondary Education (CPE)	Nonacademic		CPE prepares annual accountability reports that contain summaries of enrollment, degrees, staffing, and other characteristics of Kentucky's postsecondary education institutions.
National Center for Education Statistics (NCES)	Fiscal, Nonacademic	NPEFS	NCES provides the following annual reports: The Condition of Education, The Digest of Education Statistics, Projections of Education Statistics, Indicators of School Crime and Safety, and Education Statistics Quarterly.
U.S. Census Bureau	Fiscal, demographic	F-33, Decennial Census	School District Financial Survey (F-33); Decennnial Census - population and household statistics

Source: Staff compilation of NCES, KDE, U.S. Census, and SFCC reports.

Appendix C

Total and Current Elementary and Secondary Education Spending FY 2000-FY 2005

	Total Elementary and Secondary Education Spending				
FY	*Instruction*	*Instructional Support*	*Noninstruction*	*Facilities*	*Total*
2000	2,049,245,568	1,342,557,335	264,665,912	345,390,956	4,001,859,771
2001	2,142,342,153	1,416,386,179	260,543,252	438,632,899	4,257,904,484
2002	2,241,747,607	1,433,636,419	287,120,610	402,575,492	4,365,080,128
2003	2,311,639,167	1,479,964,638	294,277,058	350,971,083	4,436,851,947
2004	2,767,032,755	1,730,642,994	336,900,099	457,051,891	5,291,627,740
2005	2,929,701,925	1,859,727,892	347,974,101	706,136,754	5,843,540,672
	Percent of Total				
FY	*Instruction*	*Instructional Support*	*Noninstruction*	*Facilities*	
2000	51.2%	33.5%	6.6%	8.6%	
2001	50.3%	33.3%	6.1%	10.3%	
2002	51.4%	32.8%	6.6%	9.2%	
2003	52.1%	33.4%	6.6%	7.9%	
2004	52.3%	32.7%	6.4%	8.6%	
2005	50.1%	31.8%	6.0%	12.1%	

	Current Spending for Elementary and Secondary Education			
FY	*Instruction*	*Instructional Support*	*Noninstruction*	*Total*
2000	1,989,996,883	$1,166,528,990	206,487,128	3,363,013,001
2001	2,083,160,325	$1,242,618,404	213,292,377	3,539,071,106
2002	2,178,377,610	$1,286,408,307	224,802,957	3,689,588,874
2003	2,264,342,305	$1,336,267,445	228,248,224	3,828,857,973
2004	2,722,345,623	$1,549,947,000	262,114,102	4,534,406,725
2005	2,890,176,676	$1,641,193,815	275,422,120	4,806,792,611
	Percent of Current Spending			
FY	*Instruction*	*Instructional Support*	*Noninstruction*	
2000	59.2%	34.7%	6.1%	
2001	58.9%	35.1%	6.0%	
2002	59.0%	34.9%	6.1%	
2003	59.1%	34.9%	6.0%	
2004	60.0%	34.2%	5.8%	
2005	60.1%	34.1%	5.7%	

Source: Staff calculations using KDE Annual Financial Reports.

Appendix D

Summary Statistics for School District Factors

To analyze the patterns of resource allocation among school districts in FY 2005, spending, staffing, and teacher pay are examined within five categories of district characteristics. These factors include location, size, poverty, wealth, and student performance. This appendix provides summary statistics for these grouping variables.

Location is defined by area development districts (ADDs). Kentucky's counties are grouped into 15 regional ADDs that allow local elected officials and citizens to cooperate in the planned growth of their areas. An ADD is, therefore, a regional organization that assists in the formulation and implementation of human resource and infrastructure related plans.

Area Development District	School districts in ADD	Percent of total districts in ADD
Purchase	12	7%
Pennyrile	10	6%
Green River	9	5%
Barren River	14	8%
Lincoln Trail	12	7%
Kentuckiana	9	5%
Northern KY	20	11%
Buffalo Trace	6	3%
Gateway	5	3%
FIVCO	9	5%
Big Sandy	7	4%
KY River	11	6%
Cumberland Valley	15	9%
Lake Cumberland	14	8%
Bluegrass	23	13%

District Size is determined as follows:

Variable Code	District Membership	Number of Districts in Size Grouping	Percent of All Districts
1	0 – 2,000	72	41%
2	2,001 – 4,000	63	36%
3	4,001 – 6,000	21	12%
4	6,001 – 10,000	9	5%
5	10,001 – 20,000	9	5%
6	Larger than 20,000	2	1%

Summary Membership Statistics for District Size:

minimum	125 students
maximum	95,283 students
median	2,337 students
mean	3,730 students

Poverty is defined as the percent of students in the districts who are eligible for free or reduced lunches.

Variable Code	1 High	2	3 Low
Total Students in School District	206,149	227,141	223,213
Percent of Total Kentucky Students	31%	35%	34%
Number of School Districts in Poverty Category	86	48	42
Percent of Free and Reduced-price Lunch Students (weighted average)	68%	53%	36%
Statewide Percent Free and Reduced-price Lunch (weighted average)		52%	

Wealth is defined as per-pupil local property wealth. Five categories, or quintiles, are calculated by ranking school districts' per-pupil property assessments from lowest to highest and using funded average daily attendance (ADA) to separate school districts into five groups, each containing approximately one-fifth of the state's students.

Quintile Category	Funded ADA	Property Wealth Per Pupil
1 Low	115,301	$177,559
2	113,950	254,559
3	115,073	326,282
4	99,127	433,074
5 High	130,179	603,593
Statewide	**573,630**	**$363,528**

Student Performance is measured by districts' Commonwealth Accountability Testing System (CATS) Index scores. Two analysis methods were used and then compared to ensure that the results were not due to the methodology itself. First, five categories, or quintiles, were calculated by ranking school districts' CATS Index scores from lowest to highest and using the number of students tested in each district to separate school districts into five groups, each containing approximately one-fifth of the state's students. Then, three categories ranging from low to high were calculated following the same method.

Student Performance Category	1 Low	2	3	4	5 High
Total Students Tested School District	86,759	97,081	96,929	95,631	102,730
Percent of All Students Tested	18%	20%	20%	20%	21%
Number of Districts in Performance Category	54	18	37	26	41
Average CATS Index Score	69.8	74.6	76.8	80.2	87.0

Student Performance Category	1 Low	2	3 High
Total Students Tested School District	158,752	160,056	160,322
Percent of All Students Tested	33%	33%	33%
Number of Districts in Performance Category	57	59	60
Average CATS Index Score	70.0	76.6	84.9

Appendix E
Data Integrity Review

This appendix lists data integrity issues and concerns that threaten the reliability and validity of Kentucky's elementary and secondary education data.

Table E.1
Data Concerns Related to KDE Object, Function, and Program Codes

Object Code	KDE Title	Problem/Issue
0280	On-Behalf-Of Payments	NCES description for this is payments made by the state or other governments on behalf of the school districts that benefit active employees of the school district. KDE is currently having districts record on-behalf-of payments for children around the state who are attending vocational schools and the state is paying the cost for these children. At time of publication, KDE had not responded to a question about whether these expenses are for employee benefits only or for teacher salaries and materials as well. If expenses do include salaries and materials, then districts are overstating employee benefits by recording vocation schools' on-behalf-of payments in this expense code.
0330	Purchased Professional Services	NCES description for this is services supporting the professional development of school district personnel, including instructional and administrative employees. Costs include registration fees. KDE currently has registration fees under Object Code 0810.
0331	Auditing Services	Currently this is a sub-object under professional development and should be under the other professional services main object code. See Object Code 0339.
0332	Legal Services	See 0331.
0333	Financial Services	See 0331.
0334	Medical Services	See 0331.
0335	Professional Consultant	Since KDE has not defined professional consultant, it is unclear whether expenses should be coded under Object Code 0320 Professional Educational Services or 0330 Professional Training and Development for Professional Development.
0336	Architectural and Engineering Services	Currently this is incorrectly placed as a sub-object under professional development. These expenses should be coded under Object Code 0340 for other professional services.
0337	Security Services	According to NCES this should be under the 0500 object series for Other Purchased Services for amounts paid for services rendered by organizations or personnel not on the payroll of the school district.
0339	Other Professional Services	Currently this is a sub-object under professional development. However, according to NCES this should be a main object code rather than a sub-object code. For example, KDE could use Object Code 0360 with sub-objects for Legal, Financial, Medical and Architectural and Engineering Services.

Object Code	KDE Title	Problem/Issue
0411	Water/Sewage	KDE has Object Code 0411 for water/sewage and has Object Code 0413 for just sewage. KDE could change 0411 for water only.
0412	Cable TV	This is a communications service that should be included under the 0530 main object for communications.
0450	Construction Services	NCES states this object code should only be used with Function 4000; however, districts are coding it across all functions.
0511	Student Transportation Purchased from Another School District Within the State	NCES instructions on the NPEFS do not exclude this object code. Therefore, expenses are overstated. NCES will address this on future surveys.
0551	Forms	NCES states preprinted standard forms should be recorded under Object 0610. Staff recommends that KDE move this object code to the 0610 codes.
0580	Travel	KDE has lower-level object codes for travel in district, out of district, and out of state. However, meals and hotel expenses are coded here as well. In order for districts to get an accurate accounting of spending for meals and lodging, KDE could establish lower-level codes for these expenses.
0591	Purchased Services - Local	NCES instructions on the NPEFS do not exclude this object code. Therefore, expenses are overstated. NCES will address this on future surveys.
0594	Purchased Services - Laundry	Object code range 0590 is for purchased services in state or out of state. KDE cannot currently tell if this service is in or out of state. KDE needs to review Object Code 0594 to determine proper coding.
0600	Supplies and Materials	This is a main object code and on the NCES instructions for the NPEFS under support services Function 2000, the survey says to include food expenditures from school food service programs. This should not be here since food service has its own Function 3100. NCES will correct this on future surveys.
0620	Energy	NCES instructions on the NPEFS under Function 1000 do not include energy expenditures. NCES will correct this on future surveys.
0620	Energy	KDE's October 2005 MUNIS newsletter stated Object Code 0620 would be deleted at the end of FY 2005 and districts should not us this code. However, this code is still listed on the chart of accounts on KDE's Web page.
0629	Other Energy	KDE's October 2005 MUNIS newsletter stated Object Code 0629 would be deleted at the end of FY 2005 and districts should not us this code. However, this code is still listed on the chart of accounts on KDE's Web page.
0630	Food	NCES states this object code should only be used with Function 3100 Food Service. Food used in instructional programs is charged under Object Code 0610.
0634	ESS Food	According to NCES, food used in instructional programs should be charged to Object Code 0610.
0636	In-Service Food	According to NCES, food used in instructional programs should be charged to Object Code 0610.

Object Code	KDE Title	Problem/Issue
0648	Software	NCES states expenditures for purchased software used for educational or administrative purposes that exceed the capitalization threshold should be coded to Object Code 0735. Software costs that are below the threshold for capitalization should be coded to Object 0650.
0699	Reimbursements	NCES currently does not have a reimbursement object code. When districts use this code, expenditures are overstated. KDE should review the proper use Object Code 0699.
0739	Assets Under Threshold for Capitalization	Equipment that has a cost lower than the school district's capitalization threshold should be coded in the 0600 object code series. Object codes in the 0700 range are NOT included in current expenses. This understates current expenses. KDE should evaluate the use of Object Code 0739.
No expense code for KDE	NCES has a code for Infrastructure	NCES has a code for Infrastructure. KDE currently does not have an object code for expenditures for purchased infrastructure assets by the school district. These items include water/sewer systems, roads, bridges and other assets that have significantly longer useful lives than other capital assets. Staff recommends that KDE establish an infrastructure object code.
0799	Disposal of Assets	It is unclear what the purpose is of the disposal of assets object code. Possible options include using Object Code 0799 to pay for disposing assets (which should be coded under object code range of 0300) or using it to code the value of the asset that is being disposed. KDE needs to provide clarification.
0810	Dues, Fees and Registrations	NCES Object Code 0810 is for dues and fees only. NCES states this code is only for expenditures or assessments for membership in professional or other organizations or payments to a paying agent for services rendered. Registration for Professional Development should be coded to 0330. Staff recommends that KDE remove registration expenses from Object Code 0810 and have districts code registrations under Object Code 0330.
0821	Refund of Prior Year Tax Revenue	It is unclear why refund of prior year tax revenue is coded under Object Code 0820, Judgments Against School Districts. KDE should analyze the use of this to code to determine proper accounting.
0831	Interest on Bonds, Loans and other obligations	Per NCES, the description for interest reads that Object Code 0831 expenses should only be coded to Function 5000. However, districts are coding expenses for Object Code 0831 under Functions 2300, 2600, 2700, and 4600 in fiscal year 2005.
0840	Contingency (Budget Account Only)	Districts are coding expenses to this account even though KDE says it is a budget account only.

Object Code	KDE Title	Problem/Issue
0880	Reimbursements	This is a reimbursement code, and comments for Object Code 0699 above apply here as well. In addition, KDE is currently not adding the expenses for this code when calculating current expenditures for the NPEFS form. NCES instructions on the form only use Object Codes 0810 and 0890 ranges. When KDE veers from the NCES coding structure, it should ensure that reimbursement calculations are included on the NPEFS. Kentucky expenses are understated by not including object codes outside NCES guidelines.
0881	NonEmployer Reimbursements	This is a reimbursement code and comments for Object Code 0699 above apply here as well. In addition, KDE is currently not adding the expenses for this code when calculating current expenditures for the NPEFS form. NCES instructions on the form only use Object Codes 0810 and 0890 ranges. When KDE veers from the NCES coding structure, it should ensure that reimbursement calculations are included on the NPEFS. Kentucky expenses are understated by not including object codes outside NCES guidelines.
0896	Student Wages	NCES does not have a code for this type of expense. However, NCES recommends that student wages be coded in the 0100 series.
0897	Student Liability Insurance	NCES does not have this code. However, NCES recommends coding Student Liability Insurance to the 0520 series and using the function code for General Administration or Central Services.
0910	Debt Redemption	NCES has this code under the 0830 series for Debt Related Expenditures/Expenses.
0911	Bond Principal Redemption	See 0910.
0919	Other Debt Service	See 0910
0920	Housing Authority Obligations	NCES has no code set up for housing authority obligations. KDE should describe the expenditures that it expects districts to code to 0920.
0950	Special and/or Extraordinary Items	Initially, KDE established this object code up to track the Universal Service Fund (USF) money and instructed districts to link this object code with a revenue function (0000). In July 2004, KDE instructed districts to use this object code for Special and Extraordinary expenditures. However, some districts are still coding USF money to this object code and linking 0950 with a revenue function.

Function	KDE Title	Problem/Issue
1000	Instruction	NCES instructions on the NPEFS under Function 1000 do not include energy expenditures. NCES informed staff that it will correct this oversight on future surveys. KDE has excluded energy expenditures when reporting expenses on the NPEFS in the past.

Function	KDE Title	Problem/Issue
2214	Evaluations	It is unclear why KDE established this function code. According to NCES, evaluations should be coded to Function 2540 Planning, Research, Development and Evaluation Services. KDE does have a lower-level Function 2544 already established for Evaluation Services. Staff recommends that KDE eliminate this function.
2217	Commonwealth School Improvement (CSIF)	KDE has instructed districts to code expenses from the Commonwealth School Improvement Grant to this function. However, some districts have not done this and are coding all grant expenditures from CSIF to Function 1000. Staff recommends that KDE eliminate this function and have districts code the CSIF money to the proper functions for the goods or services provided by this grant.
2224	Education Television	According to NCES, all instruction provided to students should be coded to Function 1000, including instruction delivered by television and radio. If KDE wants to track this function separately, a sub-function code should be set up under the Function 1000 series.
2291	Duty Free Lunch (Lunchroom Monitoring)	According to NCES, activities concerned with providing food to students and staff should be coded under the 3100 function series. If KDE wants to track this separately, a sub-function code should be set up in the 3100 series.
2292	Volunteer Programs	It is unclear why KDE established this function code. KDE already has a program code—120—set up for the Volunteer Program. Since districts do not pay volunteers, there would not be expenditures for this in this function. Depending on the expense for the program, expenditures could go across all functions.
2325	Plant Administration	It is unclear why KDE established this function code. Plant Administration should be coded under Function 2610 for Supervision and KDE does have this function set up. Also there is not an example for this function on the chart of accounts organization codes. Staff recommends that KDE eliminate this code.
2521	Bids & Specifications	It is unclear why KDE established this function code. NCES's description of the 2520 main function is activities concerned with purchasing, receiving, storing, and distributing supplies, furniture, equipment, and materials used in schools and school system operations.
2610	Supervision	KDE has established a separate function for Supervision. Due to recommended changes under Function 2620, if KDE wants to track supervision separately, function codes under the main function code for Operations and another under the main function code for Maintenance should be established. These changes would facilitate the tracking of supervision expenses in each area.

Function	KDE Title	Problem/Issue
2620	Plant Operations and Maintenance	KDE has two function codes combined into one. NCES has Function 2610 Operation of Buildings and 2620 Maintenance of Buildings. Operations include activities related to physical plant cleanliness and daily use, such as lighting and HVAC systems and minor repairs. Also included are the costs of building rental and property insurance. Maintenance of Buildings are activities associated with keeping buildings at an acceptable level of efficiency through repairs and preventative maintenance. KDE does have Function 2680 Maintenance Scheduling that could be used for Maintenance of Buildings and Function 2620 could be used for Plant Operations.
2800	Central Office Support	NCES and KDE eliminated the Central Office Support category; however, districts are still coding expenses under this function.
3200	Enterprise Operations	Per NCES, Enterprise Operations are financed and operated in a manner similar to private businesses. They receive most, if not all, of their financing from receipts for the goods or services they provide, and they may be operated as profit-making ventures. If the program is financed primarily by the profits generated by the athletic events and related activities, expenditures would be reported under Enterprise Operations. Staff recommends that KDE work with districts on recording these expenses properly in the MUNIS accounting system.
3400	Adult Education Operations	Adult Education expenses should be coded across the appropriate functions already established. If this function is set up for plant operations of the Adult Education program, it should be coded to the Function 2600 series with the correct program code in the 600 series so that these expenses are coded correctly for total expenditures.
4100	Site Acquisition	KDE should change the object code description to Land Acquisition.
New code	Land Improvement	KDE currently has Function 4200 set up for site improvement. However, NCES has separate codes for land improvement and site improvement. Land Improvements are activities concerned with making permanent improvements to land, such as grading, fill, and environmental redemption, while site improvement are activities concerned with making nonpermanent improvements or enhancements to building sites. These improvements include fencing, walkways, tunnels and temporary landscaping. Staff recommends that KDE establish a land improvement function for more accurate data needs.
5200	Fund Transfers	Districts are not coding all fund transfers to this function but across all functions. By not properly recorded transfers to this function, the districts are overstating expenses.

Function	KDE Title	Problem/Issue
5000	Debt Service	Per NCES, the description for Debt Service states that it is for long-term debt of school districts and short-term notes repayable within one year of receiving the obligation. For NCES, Debt Service is to be charged to Function 2513. However, in the Financial Accounting for Local and State School Systems 2003 Edition, NCES does not have Function 2513 listed as an appropriate function. NCES also has instructions on the NPEFS for states to include short-term interest payments in Function 2500 expenses. Currently KDE does not have any way of pulling this amount off the NPEFS. Staff recommends NCES review this discrepancy and advise states on how to properly record debt service.

Program	KDE Title	Problem/Issue
000-097	All programs, no programs, assigned locally and board paid programs	KDE has established these program codes, and it is impossible to report expenditures within these codes by programs (regular instruction, special instruction, and so on).Therefore, on the NPEFS, salaries paid to teachers broken out by these instructional program codes are not reported. In the past, KDE has not included programs 000-097 on the NPEFS, which results in Kentucky's salaries being understated. Although KDE plans to add the 000 program codes to regular education programs in the future, codes greater than 000 and less than 098 will still go unreported. In addition, spending within 000 will only be reported to regular instruction so its true purpose will remain unclear. Staff recommends that KDE eliminate program codes 000-097.
180	Safe Schools Program	KDE established this program for the Safe Schools Grant. The grant has its own project number, and Safe Schools money can be used for both alternative education for which KDE has the separate program code 290, and safety expenses such as cameras or hiring police officers. By establishing the 180 Safe Schools Program code up, districts are not accurately accounting for the alternative program. KDE should eliminate program code 180 and instruct districts to code Safe School expenses to the appropriate regular or special program code.
500-599	Nonpublic School Programs	KDE is not currently excluding this program code when completing the NPEFS so Kentucky is overstating current expenditure.
600-699	Adult Education Programs	Districts are coding expenses to regular instruction rather than to the Adult Education Grant codes. In addition, KDE does not exclude these expenditures on the NPEFS form, which results in an overstatement of current expenditures.
800-899	Community Service Programs	Districts are coding expenses to regular instruction rather than to the Community Service Grant codes. In addition, KDE does not exclude these expenditures on the NPEFS form, which results in an overstatement of current expenditures.

Program	KDE Title	Problem/Issue
910	Food Service	Kentucky school districts are recording the Summer Food Program expenses to the Food Service Program instead of to the program code 800 Community Service Program. OEA staff pulled the 209X Project from district Annual Financial Reports to pull this expense out of current expense; however, there are currently only 35 districts that have this project set up, and according to the Nutrition and Health Service Branch at KDE, 120 districts participated in 2006. KDE needs to establish an 800 program code for the Summer Feeding Program, and districts need to set it up properly so that these expenses are excluded from current expenses.

General Data Integrity Issues
KDE is currently recording all Kentucky School for the Deaf and Kentucky School for the Blind expenditures to instruction and operational functions. This is overstating the instruction function and KDE should review how the accounting for these two schools should be handled accurately.
While reviewing the data on the Annual Financial Reports, staff discovered that districts have set codes up improperly and these codes are currently in use. For example, districts have expense object codes linked to revenue functions, revenue object codes linked to expenditure functions, and expense and revenue codes within the Special Revenue Funds that are not linked to project codes. In January 2001, KDE sent information to districts and provided field staff to help districts balance Fund 2 projects and implement proper accounting standards. However, some districts need to go through this process again.
While reviewing Professional Staff Data (PSD) records and Classified Staff Data (CSD) records, OEA determined that districts are not coding personnel properly. An example involves district employees who work as the director of pupil personnel (DPP), as well as the transportation director and maintenance director. Districts are establishing one record in Job Pay for a full-time DPP and then allocating the salary to the appropriate expense codes. The correct procedure is to establish three Job Pay records for this employee, with appropriate allocations for salary and time spent in each job. When districts use allocation tables rather than establishing separate Job Pay records, it is not possible to capture the time spent doing each job. Another area of concern is that some districts are assigning regular school principal job class codes to assistant principals. There are also employees who are incorrectly reported as working in more than one district. In addition, it is difficult to determine the cost of extra duty pay for DPPs because KDE has not provided a specific DPP extra duty job class code as the agency has done for other administrators. There are also instances in which districts are recording some classified employees in the PSD file instead of the CSD file. This error occurs when districts use the certified salary schedule for some classified staff. Another concern with PSD/CSD data is that the data are reported as of September 15th each year. If districts still have vacancies at the school or district level, the reports are understating staffing positions in districts. Finally, professional and certified staff of state-run vocational schools currently are not reported in the PSD and CSD data, resulting in understating the number of teachers and staff in Kentucky's schools.

According to NCES instructions, school activity fund money should be recorded on districts Annual Financial Report as current expenditures. There are two types of activity funds: student activity funds and district activity funds. Student activity funds support activities that are based in student organizations. Examples include the Art Club, Chorus Club, National Honor Society, and Student Councils. District activity funds belong to the district and are used to support its cocurricular and extracurricular activities, and the district determines how district activity fund monies are spent. Examples of district activity funds include athletic gate receipts, book fairs, special field trips, and school plays. Student activity funds should be classified as agency (fiduciary) funds, and district activity funds should be classified as special revenue funds. Another issue with Kentucky's activity funds is that districts are charging class fees, school fees, parking fees, etc. and recording such fees in the activity fund. NCES suggests that these are also district funds. NCES also references Kansas State Department of Education's guidelines for activity funds, which advises that schools can collect fee money but must turn around and write the district a check, and the district treasurer records and expends these funds in the district accounting system. By Kentucky not reporting activity funds in MUNIS, either as an end-of-year journal entry or schools using MUNIS to account for these funds, they are under-reporting current expenses. Staff recommends that KDE revise the Activity Fund Guidelines for Kentucky and implement the appropriate accounting methods suggested by NCES.
OEA staff held conversations with NCES staff on other on-behalf-of payments or direct-cost programs that Kentucky is currently paying for that are neither reflected on district's Annual Financial Report nor among the NPEFS expenses for Kentucky. The state currently is paying for technology services, such as MUNIS software fees, STI software fees, e-mail, MS exchange, and telecommunications lines from district to state. Kentucky also pays construction bond payments from SFCC that should be added to debt service expenditures that currently are not being reported. In addition many co-ops across the state are awarded local, federal, and state grants on behalf of districts. An example of this is the Ohio Valley Educational Cooperative that currently applies for Headstart grants for a couple of its districts, and the program and expenses are run through the co-op. Neither districts nor the state currently report these expenditures on their Annual Financial Reports or the NPEFS, which results in understating Kentucky's current and total expenditures. Staff recommends that KDE correct this reporting error.

The following tables track grant program expenditures within three categories: spending for purposes that are specifically prohibited; spending for which grant documentation does not provide guidelines; and spending that appears to be in keeping with grant expenditure guidelines.

Table E.2
State Grant Expenditures - Accord with Guidelines Available
Overall Summary by Fiscal Year

	2002-03		2003-04		2004-05	
	$	%	$	%	$	%
Extended School Services						
Total Expenditures	30,723,017.12	100.0	30,916,166.81	100.0	20,812,122.13	100.0
- Disallowed in Guidelines	1,102,766.40	3.6	1,496,003.21	4.8	940,359.56	4.5
- No Guidelines Available	183,827.82	0.6	94,615.61	0.3	77,505.19	0.4
- Apparently Meet Guidelines	29,436,422.90	95.8	29,325,547.99	94.9	19,794,257.38	95.1
Gifted & Talented						
Total Expenditures	7,471,163.65	100.0	7,272,349.21	100.0	7,126,975.91	100.0
- Disallowed in Guidelines	318,108.71	4.3	434,620.63	6.0	354,717.76	5.0
- No Guidelines Available	52,120.79	0.7	2,475.06	0.0	-187,607.16	-2.6
- Apparently Meet Guidelines	7,100,934.15	95.0	6,835,253.52	94.0	6,959,865.31	97.7
Preschool - KERA						
Total Expenditures	48,350,803.19	100.0	48,060,844.47	100.0	51,573,098.32	100.0
- Disallowed in Guidelines	272,002.24	0.6	339,417.60	0.7	292,935.05	0.6
- No Guidelines Available	155,553.71	0.3	146,311.05	0.3	-87,341.31	-0.2
- Apparently Meet Guidelines	47,923,247.24	99.1	47,575,115.82	99.0	51,367,504.58	99.6
Professional Development						
Total Expenditures	12,361,263.46	100.0	12,393,312.24	100.0	11,916,237.68	100.0
- Disallowed in Guidelines	741,670.26	6.0	638,521.12	5.2	416,366.67	3.5
- No Guidelines Available	96,091.02	0.8	102,285.79	0.8	40,823.69	0.3
- Apparently Meet Guidelines	11,523,502.18	93.2	11,652,505.33	94.0	11,459,047.32	96.2
Textbooks						
Total Expenditures	23,100,952.46	100.0	4,056,746.50	100.0	17,242,378.22	100.0
- Disallowed in Guidelines	66,887.18	0.3	11,763.29	0.3	45,574.57	0.3
- No Guidelines Available	0.00	0.0	0.00	0.0	0.00	0.0
- Apparently Meet Guidelines	23,034,065.28	99.7	4,044,983.21	99.7	17,196,803.65	99.7
Technology - KETS Phase II of Master Plan						
Total Expenditures	25,471,969.28	100.0	23,387,465.46	100.0	17,030,411.16	100.0
- Disallowed in Guidelines	1,104,215.37	4.3	665,633.02	2.8	406,151.46	2.4
- No Guidelines Available	75,080.09	0.3	110,961.04	0.5	1,076,621.40	6.3
- Apparently Meet Guidelines	24,292,673.82	95.4	22,610,871.40	96.7	15,547,638.30	91.3
Read to Achieve						
Total Expenditures	3,460,908.77	100.0	3,943,983.62	100.0	2,898,516.96	100.0
- Disallowed in Guidelines	-54,207.77	-1.6	427,607.07	10.8	176,378.80	6.1
- No Guidelines Available	46,919.65	1.4	26,132.56	0.7	21,371.95	0.7
- Apparently Meet Guidelines	3,468,196.89	100.2	3,490,243.99	88.5	2,700,766.21	93.2
Totals For All Above Grants						
Total Expenditures	*150,940,077.93*	100.0	*130,030,868.31*	100.0	*128,599,740.38*	100.0
- Disallowed in Guidelines	*3,551,442.39*	2.4	*4,013,565.94*	3.1	*2,632,483.87*	2.0
- No Guidelines Available	*609,593.08*	0.4	*482,781.11*	0.4	*941,373.76*	0.7
- Apparently Meet Guidelines	*146,779,042.46*	97.2	*125,534,521.26*	96.5	*125,025,882.75*	97.2
Totals Adjusted for Inflation ('06 $)						
Total Expenditures	*164,236,176.86*	100.0	*141,485,104.41*	100.0	*139,927,910.44*	100.0
- Disallowed in Guidelines	*3,864,283.95*	2.4	*4,367,115.31*	3.1	*2,864,375.67*	2.0
- No Guidelines Available	*663,291.28*	0.4	*525,308.62*	0.4	*1,024,298.05*	0.7
- Apparently Meet Guidelines	*159,708,601.64*	97.2	*136,592,680.48*	96.5	*136,039,236.72*	97.2

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

State Grant Money Used for Disallowed Expenditures
Summary of Disallowed Expenditures by Type and Fiscal Year

Code	Type of Disallowed Expenditure	2002-03	2003-04	2004-05
111	Extended Days - (Contract)	61,345.82	102,570.70	43,876.56
112	Extra Duty - (Contract)	221,710.47	200,033.94	162,696.69
113	Other Certified - (Not part of contract)	132,541.50	120,680.80	176,004.50
120	Certified Substitute	5,721.05	13,200.14	17,584.91
130	Classified Salaries	276,869.37	225,673.67	96,287.87
131	Other Classified Pay	1,095,947.10	1,440,662.83	949,532.46
140	Overtime	2,508.72	5,554.93	1,821.39
150	Classified Substitute	41,723.76	50,857.93	26,105.23
160	Licensed	3,365.72	5,720.78	0.00
170	Para-Professional	1,379.42	0.00	14,408.00
214	Dental Insurance	0.00	300.96	314.01
219	Other Group Insurance	0.00	74.35	105.28
232	County Employees Retirement System (CERS)	1,402.01	2,382.48	2,756.56
253	KSBA Unemployment Insurance	2,512.88	2,723.64	1,994.31
291	Sick Leave Payments	4,878.30	0.00	0.00
294	Federally Funded Health Care Benefits	750.66	5.68	0.00
295	Federally Funded Life Insurance Benefits	5.88	0.05	0.01
296	Federally Funded State Administration Fee	12.00	0.12	0.01
297	Federally Funded Flexible Spending Benefits	0.00	0.00	117.00
330	Purchased Professional Services	327,960.93	378,569.30	148,523.68
331	Auditing Services	1,854.00	2,982.00	2,649.00
335	Professional Consultant	22,027.99	7,729.00	1,345.00
339	Other Professional Services	604,717.30	694,166.64	341,438.35
340	Purchased Technical Services	26,859.74	25,905.88	8,848.92
430	Repairs and Maintenance Services	128,208.90	71,881.21	31,780.16
432	Building Repairs & Maintenance	0.00	0.00	168.75
433	Equipment/Machinery/Furniture Repairs & Maintenance	63,760.71	44,063.68	50,547.64
434	Computer Repairs & Maintenance	0.00	89.00	900.00
440	Rentals	0.00	200.00	0.00
443	Copier Rental (Not Capital Lease)	1,493.35	1,150.87	913.88
449	Other Rental	0.00	0.00	100.00
510	Student Transportation	95.00	0.00	0.00
530	Communication Services	1,100.63	1,591.00	1,717.22
550	Printing and Binding Services	0.00	0.00	1,716.11
551	Forms	0.00	1,760.41	2,051.00
560	Tuition	885.00	0.00	20,664.73
589	Travel - Other	3,853.14	8,050.46	10,588.78
590	Other Purchased Services	59,650.19	10,162.24	41,160.69
591	Purchased Services - Local	592.31	0.00	0.00
610	Supplies	400,982.58	145,239.82	142,253.65
620	Energy	2,123.75	0.00	0.00

(continued on next page)

State Grant Money Used for Disallowed Expenditures
Summary of Disallowed Expenditures by Type and Fiscal Year

(continued from previous page)

Code	Type of Disallowed Expenditure	2002-03	2003-04	2004-05
626	Gasoline - Data required for Federal Reporting	9.01	53.60	0.00
627	Diesel Fuel - Data Required for Fed. Reporting	606.85	0.00	3.78
630	Food	234.83	3,562.40	1,620.52
643	Supplemental Books, Study Guides and Curriculum	24,070.88	9,560.87	23,294.74
644	Textbook & Other Instructional Materials Data Required for State Reporting	1,841.00	58.00	2,877.99
646	Tests - Data Required for State Reporting	0.00	1,441.00	1,249.55
649	Binding and Repairs	459.43	0.00	0.00
663	Repair Parts	2,281.98	717.65	0.00
670	Student Activities	30,207.05	17,128.94	13,053.05
673	Fees and Registrations	155,064.60	23,312.20	16,407.35
675	Organization Supplies	225.65	105.67	0.00
679	Other Student Activities	1,625.06	2,830.93	18,833.60
680	Welfare Spending (such as Food and Clothing)	445.32	0.00	0.00
690	Other Supplies and Materials	23,368.55	84,789.73	53,042.70
730	Other Fixed Assets	3,870.09	24,005.06	11,097.14
731	Machinery and Equipment	22,982.44	9,705.00	5,737.94
733	Furniture and Fixtures	8,725.07	4,782.40	0.00
734	Computers and Related Equipment	4,318.10	12,479.22	26,921.14
735	Instructional Equipment	29,893.45	1,940.02	7,303.25
736	Other Administrative Equipment	58,654.12	4,102.43	2,736.57
739	Assets Under Threshold for Capitalization	58,564.38	33,361.12	28,588.88
810	Dues, Fees and Registrations	25,681.03	26,914.44	41,837.60
890	Other Miscellaneous Expenditures	-489,603.85	20,829.74	529.00
892	Parent Involvement Meetings	3,882.69	1,304.50	71.84
894	Field Trips - Instructional	1,075.65	984.26	1,066.68
895	Other Student Travel	7,905.41	197.60	0.00
896	Student Wages	27,807.10	15,018.67	1,882.85
898	Field Trips - Non-Instructional	88.13	382.00	803.00
899	Other Miscellaneous Expenditures	14,129.88	21,126.56	13,552.91
930	Fund Transfers	17,509.91	72,430.55	18,143.15
933	Indirect Cost	16,678.40	56,456.87	40,856.29
	Totals	***3,551,442.39***	***4,013,565.94***	***2,632,483.87***
	Totals Adjusted for Inflation (2006 $)	***3,864,283.95***	***4,367,115.31***	***2,864,375.67***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

State Grant Money Used for Expenditures That Have
No Guidelines As to Whether They Are Allowed or Not
Summary of Expenditures Having No Guidelines Across All Grants by Fiscal Year

Code	Type of Expenditure	2002-03	2003-04	2004-05
114	National Teacher Certification	769.20	76.92	3,064.58
215	Disability Insurance	23,658.62	0.00	0.00
294	Federally Funded Health Care Benefits	8,796.27	0.00	0.00
295	Federally Funded Life Insurance Benefits	85.34	0.00	93.10
296	Federally Funded State Administration Fee	187.37	26,287.63	15,908.08
298	Other Employer Paid Benefits	6,958.00	0.00	0.00
310	Purchased Administrative Services	4,710.82	0.00	914.43
319	Other Administrative Services	3,060.15	0.00	0.00
321	Workshop Consultant	76,676.22	0.00	0.00
322	Education Consultant	58,238.94	0.00	0.00
411	Water/Sewage	8,722.62	7,399.26	7,078.07
513	Bus Tokens - Public Conveyance	21,703.58	85.39	66.82
534	Cell Phone Services	270.65	237.35	-65.55
560	Tuition	58,903.00	5,166.00	5,894.00
561	Tuition - Kentucky LEA	72,476.42	0.00	0.00
600	Supplies and Materials	6,982.00	4,075.60	4,191.29
631	Catering	3,513.52	0.00	0.00
634	Extended School Services	119,473.76	0.00	0.00
636	In-Service	9,414.99	6,134.80	2,905.20
650	Supplies-Technology Related	0.00	49,227.86	17,563.08
694	Equipment Supplies	0.00	15,574.28	0.00
695	Furniture & Fixtures Supplies	0.00	0.00	2,393.60
699	Reimbursements	46,648.75	4,042.42	6,489.29
800	Other Expenditures	99.26	0.00	0.00
832	Bond Issuance Cost	47,028.48	0.00	0.00
919	Other Debt Service	0.00	0.00	0.00
931	Non-Reimbursable Fund Transfers	5,894.43	0.00	0.00
932	Reimbursable Fund Transfers	49,710.69	0.00	0.00
950	Special and/or Extraordinary Items	-24,390.00	0.00	0.00
	Totals	***609,593.08***	***118,307.51***	***66,495.99***
	Totals Adjusted for Inflation (2006 $)	***663,291.28***	***128,729.05***	***72,353.53***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

State Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: Extended School Services (ESS)

ESS programs assist individual students who are having academic difficulties. Services may be provided before or after school, evenings, Saturdays, summers, and/or intersessions. Districts may also request a waiver to offer ESS services during the school day. ESS programs across the state offer a wide array of curricula and instructional formats. Many of these programs are designed to gain the interest of and inspire motivation in students.

		2002-03		2003-04		2004-05	
Code	Type of Disallowed Expenditure	Dists.	$	Dists.	$	Dists.	$
111	Extended Days - (Contract)	17	61,345.82	18	102,570.70	13	43,876.56
112	Extra Duty - (Contract)	41	130,691.90	43	100,540.70	35	104,940.10
131	Other Classified Pay	65	803,542.10	69	1,093,773.00	74	664,526.60
150	Classified Substitute	28	35,174.99	28	41,701.67	28	23,046.28
160	Licensed	1	3,365.72	1	5,720.78	0	0.00
170	Para-Professional	1	1,379.42	0	0.00	2	14,408.00
330	Purchased Professional Services	3	808.75	3	38,025.00	6	24,980.00
331	Auditing Services	2	1,100.00	1	600.00	0	0.00
339	Other Professional Services	5	3,887.80	4	32,003.27	6	6,383.81
340	Purchased Technical Services	0	0.00	0	0.00	1	60.00
443	Copier Rental (Not Capital Lease)	1	694.78	1	304.36	0	0.00
530	Communication Services	2	1,100.63	2	1,591.00	2	1,717.22
589	Travel - Other	1	1,601.00	0	0.00	1	4,699.15
590	Other Purchased Services	2	2,400.00	2	-430.00	1	139.05
591	Purchased Services - Local	1	279.52	0	0.00	0	0.00
620	Energy	1	2,123.75	0	0.00	0	0.00
670	Student Activities	36	30,207.05	29	17,128.94	22	13,053.05
673	Fees and Registrations	1	2,040.00	1	1,425.00	1	1,939.00
679	Other Student Activities	0	0.00	1	106.25	0	0.00
690	Other Supplies and Materials	2	620.04	2	302.10	3	954.63
730	Other Fixed Assets	1	310.09	1	-310.09	0	0.00
734	Computers and Related Equipment	0	0.00	2	2,083.86	3	7,934.00
735	Instructional Equipment	0	0.00	0	0.00	1	3,753.95
890	Other Miscellaneous Expenditures	0	0.00	1	20,606.83	0	0.00
895	Other Student Travel	1	7,679.01	0	0.00	0	0.00
898	Field Trips - Non-Instructional	0	0.00	0	0.00	2	678.00
899	Other Miscellaneous Expenditures	2	-521.48	1	915.00	1	0.00
930	Fund Transfers	1	12,935.51	2	27,745.84	2	17,990.16
933	Indirect Cost	0	0.00	1	9,599.00	1	5,280.00
	Totals	***--***	***1,102,766.40***	***--***	***1,496,003.21***	***--***	***940,359.56***
	Totals Adjusted for Inflation (2006 $)	***--***	***1,199,907.54***	***--***	***1,627,784.03***	***--***	***1,023,194.51***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

State Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: Extended School Services (ESS)

		2002-03		2003-04		2004-05	
Code	**Type of Expenditure**	**Dists.**	**$**	**Dists.**	**$**	**Dists.**	**$**
210	Group Insurance					1	21.54
215	Disability Insurance			1	866.53		
250	Unemployment Insurance					1	412.88
294	Federally Funded Health Care Benefits	11	2,096.18	7	3,020.22	6	1,188.12
295	Federally Funded Life Insurance Benefits	15	19.43	10	26.08	8	9.19
296	Federally Funded State Administration Fee	17	40.49	9	113.01	9	-183.48
322	Education Consultant	1	11,157.65	1	5,684.56		
411	Water/Sewage	8	7,515.00	5	3,423.02	5	3,613.75
513	Bus Tokens Public Conveyance	2	21,703.58	2	29,004.32	2	19,983.50
634	Extended School Services	58	115,302.20	55	87,722.72	42	57,443.15
694	Equipment Supplies					1	184.82
695	Furniture & Fixtures Supplies					1	257.72
699	Reimbursements	2	25,993.29	3	-35,244.85	2	-5,426.00
	Totals	***--***	***183,827.82***	***--***	***94,615.61***	***--***	***77,505.19***
	Totals Adjusted for Inflation (2006 $)	***--***	***200,020.95***	***--***	***102,950.17***	***--***	***84,332.51***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

State Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: Gifted and Talented

Gifted and talented students possess "demonstrated or potential ability to perform at exceptionally high levels in one or more of five areas: intellectual aptitude; specific academic aptitude; creative or divergent thinking; psychosocial skills; or in the visual or performing arts" (KRS 157.200 and 704 KAR 3:285). Districts offer services that allow these students to progress at an accelerated pace.

		2002-03		2003-04		2004-05	
Code	Type of Disallowed Expenditure	Dists.	$	Dists.	$	Dists.	$
112	Extra Duty (Contract)	22	91,018.57	21	99,493.24	18	57,756.59
113	Other Certified (Not part of contract)	16	132,541.50	14	120,680.80	19	176,004.50
120	Certified Substitute	12	5,721.05	14	13,200.14	15	17,584.91
130	Classified Salaries	11	23,266.97	12	56,766.17	5	22,961.20
131	Other Classified Pay	5	1,908.63	2	999.88	5	1,652.76
140	Overtime	2	77.97				
150	Classified Substitute	1	-2.00			1	43.23
232	County Employees Retirement System (CERS)	17	1,402.01	14	2,382.48	16	2,756.56
291	Sick Leave Payments	1	4,878.30				
297	Federally Funded Flexible Spending Benefits					1	117.00
331	Auditing Services	1	100.00	1	424.00	1	424.00
335	Professional Consultant	1	685.00				
339	Other Professional Services	1	2,001.00	3	5,333.10	2	3,401.34
433	Equipment/Machinery/Furniture Repairs & Main.	1	317.50				
440	Rentals			1	200.00		
551	Forms			1	1,747.94	1	2,051.00
589	Travel Other			1	591.48	1	4,038.97
590	Other Purchased Services	1	2,000.00	1	726.37	1	2,000.00
591	Purchased Services Local	1	12.79				
626	Gasoline Data required for Federal Reporting	1	9.01	1	-9.01		
627	Diesel Fuel Data Required for Federal Reporting	2	606.85			1	3.78
644	Textbook& Other Instructional Materials Data Required for State Reporting	1	1,841.00	1	58.00	1	296.30
649	Binding and Repairs	1	170.50				
690	Other Supplies and Materials			1	1,651.53	1	149.05
730	Other Fixed Assets			1	22,189.67		
734	Computers and Related Equipment	3	4,318.10	6	10,395.36	6	18,987.14
735	Instructional Equipment	2	2,560.00	1	1,323.96	1	69.84
810	Dues, Fees and Registrations	29	25,681.03	24	26,914.44	32	41,837.60
895	Other Student Travel	2	226.40				
898	Field Trips Non-Instructional	1	88.13	1	112.50	1	125.00
930	Fund Transfers			1	57,137.39	1	152.99
933	Indirect Cost	3	16,678.40	2	12,301.19	1	2,304.00
	Totals	***--***	***318,108.71***	***--***	***434,620.63***	***--***	***354,717.76***
	Totals Adjusted for Inflation (2006 $)	***--***	***346,130.46***	***--***	***472,905.75***	***--***	***385,964.35***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

State Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant and Total Amount of Those Expenditures by Fiscal Year

Grant: Gifted and Talented

		2002-03		2003-04		2004-05	
Code	**Type of Expenditure**	**Distrs.**	**$**	**Dists.**	**$**	**Dists.**	**$**
114	National Teacher Certification					1	1,999.92
210	Group Insurance					1	6.81
215	Disability Insurance	1	292.93	1	302.87	1	189.91
250	Unemployment Insurance					1	120.00
294	Federally Funded Health Care Benefits	2	772.77			2	342.93
295	Federally Funded Life Insurance Benefits	2	5.34			2	8.00
296	Federally Funded State Administration Fee	2	11.06			2	8.30
298	Other Employer Paid Benefits	1	1,008.00	1	588.00	1	1,008.00
560	Tuition	1	320.00				
634	Extended School Services			1	607.85		
636	In-Service					1	4,886.50
650	Supplies-Technology Related					1	1,271.84
694	Equipment Supplies			1	500.00	1	21.23
695	Furniture & Fixtures Supplies			1	476.34		
931	Non-Reimbursable Fund Transfers					1	-197,470.60
932	Reimbursable Fund Transfers	1	49,710.69				
	Totals	***--***	***52,120.79***	***--***	***2,475.06***	***--***	***-187,607.16***
	Totals Adjusted for Inflation (2006 $)	***--***	***56,712.04***	***--***	***2,693.08***	***--***	***-204,133.21***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

State Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: Preschool - KERA

Kentucky's preschool education programs are available for all 4-year-olds who are eligible for free lunch; all 3- and 4-year-olds with developmental delays and disabilities, regardless of income; and other 4-year-olds as placements are available based on district decision. The preschool program focuses on physical, intellectual, social, and emotional development, including interpersonal, intrapersonal, and socialization skills. In addition, children receive at least one meal per class day and health screenings including vision, hearing, and development. Parent education opportunities and social services are also provided as needed.

		2002-03		2003-04		2004-05	
Code	**Type of Disallowed Expenditure**	**Dists.**	**$**	**Dists.**	**$**	**Dists.**	**$**
131	Other Classified Pay	28	271,667.90	39	324,493.10	33	276,928.20
644	Textbook & Other Instructional Materials Data Required for State Reporting					2	668.85
930	Fund Transfers	1	334.34	1	0.50		
933	Indirect Cost			1	14,924.00	1	15,338.00
	Totals	**--**	***272,002.24***	**--**	***339,417.60***	**--**	***292,935.05***
	Totals Adjusted for Inflation (2006 $)	**--**	***295,962.53***	**--**	***369,316.42***	**--**	***318,739.29***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

State Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant and Total Amount of Those Expenditures by Fiscal Year

Grant: Preschool – KERA

		2002-03		2003-04		2004-05	
Code	**Type of Expenditure**	**Dists.**	**$**	**Dists.**	**$**	**Dists.**	**$**
114	National Teacher Certification	1	769.20	1	76.92	1	1,064.66
210	Group Insurance					1	62.89
215	Disability Insurance	1	22,317.70	1	23,485.37	1	13,896.31
250	Unemployment Insurance					1	313.25
294	Federally Funded Health Care Benefits	14	5,137.80	10	4,148.59	9	4,988.69
295	Federally Funded Life Insurance Benefits	16	54.19	13	57.07	10	45.41
296	Federally Funded State Administration Fee	16	115.45	12	119.60	9	99.88
298	Other Employer Paid Benefits	1	5,782.00	1	4,410.00	1	4,886.00
322	Education Consultant	1	31,325.59				
411	Water/Sewage	4	1,207.62	3	619.40	3	2,875.54
560	Tuition	3	57,598.00	5	47,567.79	3	25,373.00
561	Tuition Kentucky LEA	2	71,180.17	1	54,181.89	1	37,266.94
634	Extended School Services	2	4,171.56	1	2,601.51	1	101.62
650	Supplies-Technology Related			2	1,048.88	3	1,027.98
694	Equipment Supplies			2	1,606.87	1	876.61
695	Furniture & Fixtures Supplies					1	820.65
919	Other Debt Service			1	6,657.11	1	7,331.86
931	Non-Reimbursable Fund Transfers	2	-44,105.57	1	-269.95	1	-188,372.60
	Totals	**--**	***155,553.71***	**--**	***146,311.05***	**--**	***-87,341.31***
	Totals Adjusted for Inflation (2006 $)	**--**	***169,256.22***	**--**	***159,199.38***	**--**	***-95,035.08***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

State Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: Professional Development

Professional development (PD) is defined in 704 KAR 3:035 Section (2) as "those experiences which systematically over a sustained period of time, enable educators to acquire and apply knowledge, understanding, skills, and abilities to achieve personal, professional, and organizational goals and to facilitate the learning of students." KRS 158.070 requires four days of the minimum school term to be used for PD activities for the building-level professional staff.

		2002-03		2003-04		2004-05	
Code	Type of Disallowed Expenditure	Dists.	$	Dists.	$	Dists.	$
140	Overtime	5	2,430.75	6	5,554.93	3	1,821.39
150	Classified Substitute	10	5,527.17	12	4,782.88	10	2,862.20
331	Auditing Services	2	504.00	3	1,458.00	3	1,025.00
339	Other Professional Services	41	518,529.50	41	565,235.60	43	328,657.20
430	Repairs and Maintenance Services	1	526.10				
434	Computer Repairs & Maintenance			1	89.00	1	900.00
443	Copier Rental (Not Capital Lease)	1	798.57	1	846.51	1	913.88
449	Other Rental					1	100.00
626	Gasoline Data required for Federal Reporting			1	62.61		
643	Supplemental Books, Study Guides and Curriculum	10	23,574.98	10	9,560.87	13	23,106.10
644	Textbook& Other Instructional Materials Data Required for State Reporting					3	1,912.84
646	Tests Data Required for State Reporting					1	1,249.55
673	Fees and Registrations	2	153,024.60	2	21,887.20	1	14,468.35
680	Welfare Spending (such as Food, Clothing,, and Utilities)	1	445.32				
690	Other Supplies and Materials	2	3,179.51	2	3,884.88	2	7,084.31
730	Other Fixed Assets	1	3,560.00	1	2,125.48	1	8,057.00
731	Machinery and Equipment					1	5,737.94
733	Furniture and Fixtures	2	1,372.00				
736	Other Administrative Equipment	1	1,001.25	1	215.00		
739	Assets Under Threshold for Capitalization					1	349.00
890	Other Miscellaneous Expenditures	1	15,882.65	1	222.91	1	529.00
894	Field Trips Instructional					1	45.00
896	Student Wages			1	15.45		
899	Other Miscellaneous Expenditures	10	11,313.86	10	19,931.56	8	13,364.91
930	Fund Transfers			3	-1,388.76		
933	Indirect Cost			1	4,037.00	1	4,183.00
	Totals	***--***	***741,670.26***	***--***	***638,521.12***	***--***	***416,366.67***
	Totals Adjusted for Inflation (2006 $)	***--***	***807,002.95***	***--***	***694,767.55***	***--***	***453,043.82***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

State Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant and Total Amount of Those Expenditures by Fiscal Year

Grant: Professional Development

		2002-03		2003-04		2004-05	
Code	**Type of Expenditure**	**Dists.**	**$**	**Dists.**	**$**	**Dists.**	**$**
210	Group Insurance					1	1.86
215	Disability Insurance					1	1,114.66
250	Unemployment Insurance					1	68.30
294	Federally Funded Health Care Benefits	1	18.55	6	206.82	5	157.73
295	Federally Funded Life Insurance Benefits	6	0.33	7	1.64	5	1.21
296	Federally Funded State Administration Fee	6	0.72	5	3.31	5	2.74
310	Purchased Administrative Services	1	4,015.34	1	4,075.60	1	4,191.29
319	Other Administrative Services	1	3,060.15	1	6,134.80	1	2,905.20
321	Workshop Consultant	1	76,676.22	1	49,227.86	1	17,563.08
445	Portable Classroom Rental					1	550.00
448	Vehicle Rental					1	238.47
534	Cell Phone Services	1	270.65	1	436.27		
561	Tuition Kentucky LEA	1	1,296.25				
631	Catering	1	3,513.52	1	2,364.81	2	2,438.72
636	In-Service	7	7,140.03	7	11,560.73	8	8,341.66
650	Supplies-Technology Related					1	369.00
694	Equipment Supplies			1	37.00		
800	Other Expenditures	1	99.26			1	10.00
931	Non-Reimbursable Fund Transfers			2	28,236.95	1	2,869.77
	Totals	***--***	***96,091.02***	***--***	***102,285.79***	***--***	***40,823.69***
	Totals Adjusted for Inflation (2006 $)	***--***	***104,555.54***	***--***	***111,296.00***	***--***	***44,419.79***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

State Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: Textbooks

Textbook expenditures include a range of instructional materials, in print and electronic forms. In accordance with accessibility statute (KRS 156.027) and regulation (704 KAR 3:455), preferential procurement status is granted to publishers who supply materials in alternative formats for students with disabilities—electronic versions of text that are compatible with Braille translation and speech synthesis software.

		2002-03		2003-04		2004-05	
Code	**Type of Disallowed Expenditure**	**Dists.**	**$**	**Dists.**	**$**	**Dists.**	**$**
330	Purchased Professional Services			1	375.00	1	-375.00
550	Printing and Binding Services					1	1,716.11
610	Supplies	17	57,316.48	15	18,343.92	15	43,591.56
646	Tests Data Required for State Reporting			1	1,441.00		
690	Other Supplies and Materials	2	1,564.15	3	2,636.99	1	162.44
735	Instructional Equipment	1	6,061.05	1	30.80	1	479.46
899	Other Miscellaneous Expenditures	1	1,945.50				
930	Fund Transfers			2	-11,064.42		
	Totals	***--***	***66,887.18***	***--***	***11,763.29***	***--***	***45,574.57***
	Totals Adjusted for Inflation (2006 $)	***--***	***72,779.18***	***--***	***12,799.50***	***--***	***49,589.17***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

State Grant Money Used for Expenditures That Have
No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: Textbooks

No expenditures for this grant were without guidelines.

State Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: Technology—KETS Phase II

The Kentucky Education Technology Systems (KETS) is a direct result of the Kentucky Education Reform Act of 1990. The Master Plan and KETS Implementation Plan guide ongoing work. KETS, now in Phase II of the Master Plan, includes initiatives to enhance communications, connections with families, student learning, teacher productivity, financial management, and data collection and processing.

		2002-03		2003-04		2004-05	
Code	Type of Disallowed Expenditure	Dists.	$	Dists.	$	Dists.	$
131	Other Classified Pay	19	18,828.47	7	21,396.85	6	6,424.90
330	Purchased Professional Services	23	254,855.30	20	220,795.40	10	78,704.18
331	Auditing Services	1	150.00	2	500.00	1	1,200.00
335	Professional Consultant	3	21,342.99	2	3,270.00	2	1,345.00
340	Purchased Technical Services	9	26,859.74	6	25,905.88	5	8,788.92
430	Repairs and Maintenance Services	11	127,682.80	15	71,881.21	12	31,780.16
432	Building Repairs & Maintenance					1	168.75
433	Equipment/Machinery/Furniture Repairs & Maintenance.	6	63,443.21	6	44,063.68	6	50,547.64
510	Student Transportation	1	95.00				
551	Forms			1	12.47		
590	Other Purchased Services	4	54,750.19	3	9,865.87	3	39,021.64
610	Supplies	29	343,666.10	32	126,895.90	32	98,662.09
630	Food	2	113.23	5	2,982.26	4	1,193.52
643	Supplemental Books, Study Guides and Curriculum	1	495.90			1	188.64
663	Repair Parts	1	2,281.98	1	717.65		
675	Organization Supplies	1	225.65	1	105.67		
679	Other Student Activities	2	1,488.71			1	18,833.60
690	Other Supplies and Materials	5	14,807.68	6	69,084.15	6	35,411.44
731	Machinery and Equipment	3	22,982.44	1	9,705.00		
733	Furniture and Fixtures	1	7,353.07	2	4,782.40		
736	Other Administrative Equipment	2	50,212.35	2	3,887.43	2	2,736.57
739	Assets Under Threshold for Capitalization	2	58,564.38	3	33,361.12	3	28,239.88
894	Field Trips Instructional	3	577.02	3	949.76	2	1,021.68
895	Other Student Travel			1	197.60		
896	Student Wages	2	27,807.10	2	15,003.22	2	1,882.85
898	Field Trips Non-Instructional			1	269.50		
899	Other Miscellaneous Expenditures	2	1,392.00				
930	Fund Transfers	1	4,240.06				
	Totals	***--***	***1,104,215.37***	***--***	***665,633.02***	***--***	***406,151.46***
	Totals Adjusted for Inflation (2006 $)	***--***	***1,201,484.15***	***--***	***724,267.70***	***--***	***441,928.77***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

State Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant and Total Amount of Those Expenditures by Fiscal Year

Grant: Technology—KETS Phase II

		2002-03		2003-04		2004-05	
Code	**Type of Expenditure**	**Dists.**	**$**	**Dists.**	**$**	**Dists.**	**$**
294	Federally Funded Health Care Benefits	1	20.31	1	17.95	1	400.60
295	Federally Funded Life Insurance Benefits	1	0.17	2	0.55	1	3.00
296	Federally Funded State Administration Fee	1	7.65	2	1.31	1	7.00
298	Other Employer Paid Benefits	1	168.00	1	168.00		
310	Purchased Administrative Services	1	695.48				
350	Technical Services					1	2,393.60
560	Tuition	1	100.00				
600	Supplies and Materials			1	1,229.65	1	367.70
636	In-Service	1	1,450.00	1	1,995.29		
650	Supplies-Technology Related			2	50,367.84	8	95,032.23
694	Equipment Supplies			1	1,355.45	2	1,724.87
832	Bond Issuance Cost	1	47,028.48				
919	Other Debt Service					1	112,463.30
931	Non-Reimbursable Fund Transfers	1	50,000.00	1	45,371.00	1	864,229.10
950	Special and/or Extraordinary Items	2	-24,390.00	1	10,454.00		
	Totals	**--**	***75,080.09***	**--**	***110,961.04***	**--**	***1,076,621.40***
	Totals Adjusted for Inflation (2006 $)	**--**	***81,693.79***	**--**	***120,735.44***	**--**	***1,171,459.46***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

State Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: Read to Achieve

In 1998, Senate Bill 186 established the Early Reading Incentive Grant Program through lottery funds to "provide (27-month) grants to schools to support teachers in the implementation of reliable, replicable, research-based reading models that use a balance of instructional strategies, including phonics instruction, to address the diverse learning needs of those students (primary) reading at low levels" (KRS 158.792).

		2002-03		2003-04		2004-05	
Code	Type of Disallowed Expenditure	Dists.	$	Dists.	$	Dists.	$
130	Classified Salaries	17	253,602.40	12	168,907.50	10	73,326.67
150	Classified Substitute	3	1,023.60	2	4,373.38	2	153.52
214	Dental Insurance			2	300.96	2	314.01
219	Other Group Insurance			1	74.35	1	105.28
253	KSBA Unemployment Insurance	19	2,512.88	19	2,723.64	17	1,994.31
294	Federally Funded Health Care Benefits	2	750.66	1	5.68		
295	Federally Funded Life Insurance Benefits	2	5.88	1	0.05	1	0.01
296	Federally Funded State Administration Fee	2	12.00	1	0.12	1	0.01
330	Purchased Professional Services	9	72,296.88	9	119,373.90	8	45,214.50
335	Professional Consultant			1	4,459.00		
339	Other Professional Services	8	80,299.00	6	91,594.67	3	2,996.00
560	Tuition	2	885.00			2	20,664.73
589	Travel Other	1	2,252.14	1	7,458.98	1	1,850.66
590	Other Purchased Services	1	500.00				
591	Purchased Services Local	1	300.00				
630	Food	2	121.60	3	580.14	2	427.00
649	Binding and Repairs	1	288.93				
679	Other Student Activities	1	136.35	1	2,724.68		
690	Other Supplies and Materials	3	3,197.17	1	7,230.08	3	9,280.83
730	Other Fixed Assets					1	3,040.14
735	Instructional Equipment	2	21,272.40	3	585.26	1	3,000.00
736	Other Administrative Equipment	1	7,440.52				
890	Other Miscellaneous Expenditures	4	-505,486.50	1	0.00	1	0.00
892	Parent Involvement Meetings	6	3,882.69	2	1,304.50	1	71.84
894	Field Trips Instructional	1	498.63	1	34.50		
899	Other Miscellaneous Expenditures			1	280.00	1	188.00
933	Indirect Cost			1	15,595.68	1	13,751.29
	Totals	**--**	***-54,207.77***	**--**	***427,607.07***	**--**	***176,378.80***
	Totals Adjusted for Inflation (2006 $)	**--**	***-58,982.86***	**--**	***465,274.37***	**--**	***191,915.76***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

State Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant and Total Amount of Those Expenditures by Fiscal Year

Grant: Read to Achieve

		2002-03		2003-04		2004-05	
Code	**Type of Expenditure**	**Dists.**	**$**	**Dists.**	**$**	**Dists.**	**$**
215	Disability Insurance	1	1,047.99	1	1,632.86	1	707.20
294	Federally Funded Health Care Benefits	2	750.66	1	5.68		
295	Federally Funded Life Insurance Benefits	2	5.88	1	0.05	1	0.01
296	Federally Funded State Administration Fee	2	12.00	1	0.12	1	0.01
322	Education Consultant	2	15,755.70	2	9,889.72		
560	Tuition	2	885.00			2	20,664.73
600	Supplies and Materials	1	6,982.00				
636	In-Service	1	824.96				
699	Reimbursements	1	20,655.46	1	14,604.13		
	Totals	***--***	***46,919.65***	***--***	***26,132.56***	***--***	***21,371.95***
	Totals Adjusted for Inflation (2006 $)	***--***	***51,052.74***	***--***	***28,434.54***	***--***	***23,254.57***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

Federal Noncompetitive Grant Expenditures - Accord With Guidelines Available
Overall Summary by Fiscal Year

	2002-03		2003-04		2004-05	
	$	%	$	%	$	%
NCLB Title I Part A "Improving Basic Programs"						
Total Expenditures	142,831,470.19	100.0	153,191,593.30	100.0	163,827,545.05	100.0
- Disallowed in Guidelines	82,152.56	0.1	157,821.97	0.1	126,951.85	0.1
- No Guidelines Available	85,813.40	0.1	80,512.05	0.1	103,090.06	0.1
- Apparently Meet Guidelines	142,663,504.23	99.9	152,953,259.28	99.8	163,597,503.14	99.9
NCLB Title I Part C "Migrant Education"						
Total Expenditures	7,498,602.90	100.0	7,306,203.23	100.0	6,667,858.67	100.0
- Disallowed in Guidelines	120,091.16	1.6	218,882.47	3.0	143,574.02	2.2
- No Guidelines Available	2,642.81	0.0	1,799.91	0.0	2,468.33	0.0
- Apparently Meet Guidelines	7,375,868.93	98.4	7,085,520.85	97.0	6,521,816.32	97.8
Title I Part C Perkins Vocational & Technical Education Act						
Total Expenditures	7,520,311.73	100.0	6,817,899.86	100.0	6,551,003.45	100.0
- Disallowed in Guidelines	604,188.19	8.0	800,947.99	11.7	679,663.04	10.4
- No Guidelines Available	4,329.71	0.1	20,097.40	0.3	26,501.95	0.4
- Apparently Meet Guidelines	6,911,793.83	91.9	5,996,854.47	88.0	5,844,838.46	89.2
NCLB Title I Part D "Neglected & Delinquent"						
Total Expenditures	776,365.16	100.0	991,336.82	100.0	1,137,755.74	100.0
- Disallowed in Guidelines	0.00	0.0	0.00	0.0	0.00	0.0
- No Guidelines Available	392.00	0.1	685.48	0.1	2,614.96	0.2
- Apparently Meet Guidelines	775,973.16	99.9	990,651.34	99.9	1,135,140.78	99.8
NCLB Title II Part A "Teacher Quality"						
Total Expenditures	33,109,303.95	100.0	41,249,645.03	100.0	42,434,690.27	100.0
- Disallowed in Guidelines	196,892.40	0.6	170,826.62	0.4	411,410.66	1.0
- No Guidelines Available	57,597.20	0.2	11,206.24	0.0	42,443.04	0.1
- Apparently Meet Guidelines	32,854,814.35	99.2	41,067,612.17	99.6	41,980,836.57	98.9
NCLB Title II Part D "Education Technology" [This source has both competitive and noncompetitive grants.]						
Total Expenditures	2,274,211.58	100.0	4,037,501.97	100.0	4,532,548.09	100.0
- Disallowed in Guidelines	64,173.71	2.8	76,207.20	1.9	32,131.43	0.7
- No Guidelines Available	0.00	0.0	166.87	0.0	1,913.50	0.0
- Apparently Meet Guidelines	2,210,037.87	97.2	3,961,127.90	98.1	4,498,503.16	99.2
NCLB Title III "Limited English Proficiency (LEP)"						
Total Expenditures	825,395.15	100.0	1,324,591.60	100.0	1,407,106.93	100.0
- Disallowed in Guidelines	0.00	0.0	28,123.73	2.1	60,066.58	4.3
- No Guidelines Available	0.00	0.0	0.00	0.0	0.00	0.0
- Apparently Meet Guidelines	825,395.15	100.0	1,296,467.87	97.9	1,347,040.35	95.7

(continued on next page)

Federal Noncompetitive Grant Expenditures - Accord With Guidelines Available
Overall Summary by Fiscal Year

(continued from previous page)

	2002-03		2003-04		2004-05	
	$	%	$	%	$	%
NCLB Title IV "Safe & Drug Free Schools & Communities"						
Total Expenditures	6,278,820.98	100.0	5,329,429.70	100.0	4,702,003.34	100.0
- Disallowed in Guidelines	136,045.30	2.2	195,403.31	3.7	77,660.90	1.7
- No Guidelines Available	258,213.67	4.1	75,088.22	1.4	98,145.50	2.1
- Apparently Meet Guidelines	5,884,562.01	93.7	5,058,938.17	94.9	4,526,196.94	96.3
NCLB Title V Part A "Innovative Programs"						
Total Expenditures	3,448,462.77	100.0	4,292,095.67	100.0	3,809,122.17	100.0
- Disallowed in Guidelines	10,931.59	0.3	17,995.23	0.4	24,756.16	0.6
- No Guidelines Available	2,234.19	0.1	16,790.15	0.4	4,649.97	0.1
- Apparently Meet Guidelines	3,435,296.99	99.6	4,257,310.29	99.2	3,779,716.04	99.2
Individuals with Disabilities Education Act (IDEA), Basic						
Total Expenditures	90,557,870.65	100.0	107,021,467.56	100.0	125,856,622.17	100.0
- Disallowed in Guidelines	604,153.42	0.7	661,540.68	0.6	36,780.86	0.0
- No Guidelines Available	54,738.68	0.1	70,102.68	0.1	65,961.36	0.1
- Apparently Meet Guidelines	89,898,978.55	99.3	106,289,824.20	99.3	125,753,879.95	99.9
Individuals with Disabilities Education Act (IDEA), Preschool						
Total Expenditures	8,197,390.00	100.0	8,229,965.87	100.0	8,258,027.94	100.0
- Disallowed in Guidelines	38,407.56	0.5	47,510.30	0.6	972,561.40	11.8
- No Guidelines Available	265,572.78	3.2	234,410.33	2.8	295,830.35	3.6
- Apparently Meet Guidelines	7,893,409.66	96.3	7,948,045.24	96.6	6,989,636.19	84.6
Totals For All Above Grants						
Total Expenditures	*303,318,205.06*	*100.0*	*339,791,730.61*	*100.0*	*369,184,283.82*	*100.0*
- Disallowed in Guidelines	*1,857,035.89*	*0.6*	*2,375,259.50*	*0.7*	*2,565,556.90*	*0.7*
- No Guidelines Available	*731,534.44*	*0.2*	*510,859.33*	*0.2*	*643,619.02*	*0.2*
- Apparently Meet Guidelines	*300,729,634.73*	*99.1*	*336,905,611.78*	*99.2*	*365,975,107.90*	*99.1*
Totals Adjusted for Inflation (2006 $)						
Total Expenditures	*330,037,078.66*	100.0	*369,723,505.72*	100.0	*401,705,207.55*	100.0
- Disallowed in Guidelines	*2,020,619.57*	6.2	*2,584,492.76*	6.3	*2,791,553.19*	6.6
- No Guidelines Available	*795,974.28*	2.4	*555,860.21*	1.4	*700,314.51*	1.7
- Apparently Meet Guidelines	*327,220,484.81*	996.0	*366,583,152.74*	892.6	*398,213,339.85*	948.6

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

Federal Noncompetitive Grant Money Used for Disallowed Expenditures
Summary of Disallowed Expenditures by Type and Fiscal Year

Code	Type of Disallowed Expenditure	2002-03	2003-04	2004-05
111	Extended Days - (Contract)	3,026.08	10,193.86	8,587.57
131	Other Classified Pay	839,602.11	974,120.05	1,245,767.86
140	Overtime	308.25	88.35	2,107.01
150	Classified Substitute	5,358.91	15,088.57	13,796.41
160	Licensed	0.00	0.00	1,795.99
170	Para-Professional	1,102.97	0.00	847.55
293	Meal Reimbursements	1,545.51	917.17	881.07
330	Purchased Professional Services	66,101.80	79,963.43	211,064.69
334	Medical Services	4,354.13	-125.00	1,623.00
335	Professional Consultant	15,030.53	35,215.53	27,355.72
339	Other Professional Services	86,606.26	243,638.10	205,229.24
340	Purchased Technical Services	1,170.52	0.00	0.00
341	Drug Testing	0.00	0.00	56.00
411	Water/Sewage	222.63	339.49	175.04
421	Sanitation Services	593.00	0.00	0.00
430	Repairs and Maintenance Services	0.00	0.00	10,877.43
433	Equipment/Machinery/Furniture Repairs & Main.	-4,423.52	7,718.00	3,885.00
434	Computer Repairs & Maintenance	0.00	800.54	0.00
440	Rentals	0.00	414.30	210.41
441	Land or Building Rental	2,000.00	2,000.00	0.00
443	Copier Rental (Not Capital Lease)	10,026.77	2,469.04	0.00
514	Contracted Bus Services	0.00	0.00	1,003.37
540	Advertising Services	80.00	176.25	127.00
561	Tuition - Kentucky LEA	20,032.00	0.00	0.00
569	Tuition - Other	399.00	11,236.50	-4,729.50
589	Travel - Other	18,486.71	17,591.36	22,798.59
590	Other Purchased Services	6,115.99	-4,364.07	7,402.60
591	Purchased Services - Local	0.00	2,585.25	2,678.64
610	Supplies	493,220.36	582,847.16	464,694.31
627	Diesel Fuel - Data Required for Federal Reporting	26.80	99.65	0.00
630	Food	692.23	-108.39	1,183.29
644	Textbook& Other Instructional Materials Data Required for State Reporting	4,711.39	15,840.45	15,462.23
650	Supplies-Technology Related	0.00	16,227.22	45,826.87
670	Student Activities	0.00	44.25	221.82
673	Fees and Registrations	83,288.68	4,792.10	-750.00
674	Awards	174.65	2,411.97	1,730.53
675	Organization Supplies	500.00	500.00	796.89

(continued on next page)

Federal Noncompetitive Grant Money Used for Disallowed Expenditures
Summary of Disallowed Expenditures by Type and Fiscal Year

(continued from previous page)

Code	Type of Disallowed Expenditure	2002-03	2003-04	2004-05
676	Scholarships	0.00	0.00	400.75
690	Other Supplies and Materials	788.48	6,431.77	10,357.56
730	Other Fixed Assets	55,227.73	91,168.83	-39,073.35
731	Machinery and Equipment	19,957.40	69,281.62	31,620.92
733	Furniture and Fixtures	14,452.24	14,739.31	1,176.44
734	Computers and Related Equipment	15,003.47	45,583.86	9,340.58
735	Instructional Equipment	3,261.00	5,987.37	1,560.21
736	Other Administrative Equipment	2,081.04	5,915.92	774.04
739	Assets Under Threshold for Capitalization	57,630.34	80,860.44	55,663.93
894	Field Trips - Instructional	0.00	44.62	1,538.13
895	Other Student Travel	3,223.97	188.00	4,094.97
896	Student Wages	3,170.55	1,817.65	1,001.38
898	Field Trips - Non-Instructional	1,212.74	0.00	0.00
899	Other Miscellaneous Expenditures	5,581.46	27,344.48	4,008.71
931	Non-Reimbursable Fund Transfers	12,612.50	497.50	188,216.00
933	Indirect Cost	2,479.21	2,677.00	2,170.00
	Totals	***1,857,035.89***	***2,375,259.50***	***2,565,556.90***
	Totals Adjusted for Inflation (2006 $)	*2,020,619.57*	*2,584,492.76*	*2,791,553.19*

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

Federal Noncompetitive Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Summary of Expenditures Having No Guidelines Across All Grants by Fiscal Year

Code	Type of Expenditure	2002-03	2003-04	2004-05
114	National Teacher Certification	10,666.96	0.00	29,818.37
210	Group Insurance	0.00	0.00	371.42
215	Disability Insurance	93,046.09	105,989.66	77,932.39
250	Unemployment Insurance	0.00	0.00	4,737.70
290	Other Employee Benefits	0.00	1,126.03	0.00
298	Other Employer Paid Benefits	18,366.87	18,772.12	20,663.04
299	Other Employee Benefits	0.00	-4,495.02	2,036.51
310	Purchased Administrative Services	0.00	733.50	0.00
312	KSBA Policy Services	1,000.00	2,000.00	5,000.00
319	Other Administrative Services	0.00	2,392.48	8,162.00
321	Workshop Consultant	12,787.00	14,223.00	2,620.70
322	Education Consultant	335,530.69	291,258.77	367,129.28
350	Technical Services	0.00	3,300.00	0.00
446	Storage Container Rental	0.00	0.00	632.00
534	Cell Phone Services	57.08	1,358.56	1,192.23
535	Pagers	729.96	1,175.96	1,250.74
600	Supplies and Materials	5,649.87	5,541.89	3,581.32
631	Catering	75.80	285.00	553.00
634	Extended School Services	0.00	134.40	0.00
636	In-Service	23,527.59	15,789.69	25,326.23
692	Health Supplies	0.00	0.00	1,971.88
694	Equipment Supplies	14,341.20	36,374.79	73,147.85
695	Furniture & Fixtures Supplies	0.00	8,710.14	15,371.99
699	Reimbursements	192,979.17	7,934.99	206.87
932	Reimbursable Fund Transfers	22,943.03	0.00	0.00
	Totals	***731,701.31***	***512,605.96***	***641,705.52***
	Totals Adjusted for Inflation (2006 $)	***796,155.85***	***557,760.70***	***698,232.46***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

Federal Noncompetitive Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title I Part A "Improving Basic Programs"

This initiative is designed to help close the achievement gap between disadvantaged and minority students and their peers, as well as to change the culture of America's schools so that they define success in terms of student achievement and invest in every child. Resources targeted to high-poverty schools provide additional instructional staff, professional development, extended-time programs, parental involvement initiatives, and other scientifically-based instructional strategies for raising student achievement. States, school districts, and schools are held accountable for improving the academic achievement of all students and turning around low-performing schools. Students in low-performing schools are provided alternatives to help them receive a high-quality education and reach proficiency on challenging state academic standards and assessments.

		2002-03		2003-04		2004-05	
Code	Type of Disallowed Expenditure	Dists.	$	Dists.	$	Dists.	$
131	Other Classified Pay	29	78,060.73	41	133,275.30	36	101,866.10
293	Meal Reimbursements	4	176.84	3	155.15	2	137.25
569	Tuition Other			1	7,689.00	2	-5,693.00
650	Supplies-Technology Related			3	5,279.85	5	30,641.50
731	Machinery and Equipment	1	3,914.99	2	11,422.67		
	Totals	***--***	***82,152.56***	***--***	***157,821.97***	***--***	***126,951.85***
	Totals Adjusted for Inflation (2006 $)	***--***	***89,389.26***	***--***	***171,724.29***	***--***	***138,134.86***

Federal Noncompetitive Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title I Part A "Improving Basic Programs"

		2002-03		2003-04		2004-05	
Code	Type of Expenditure	Dists.	$	Dists.	$	Dists.	$
210	Group Insurance	0	0	0	0	1	175.63
215	Disability Insurance	1	49534.88	1	47854.72	1	34534.81
250	Unemployment Insurance	0	0	0	0	2	3111.62
290	Other Employee Benefits	0	0	1	1126.03	0	0
298	Other Employer Paid Benefits	1	8694	2	8202.12	2	8465.19
299	Other Employee Benefits	0	0	1	-4289.48	2	2036.51
322	Education Consultant	0	0	1	1615	0	0
350	Technical Services	0	0	1	3300	0	0
534	Cell Phone Services	0	0	1	539.3	1	807.79
631	Catering	0	0	1	270	1	553
636	In-Service	1	14813.84	1	12428.77	1	22957.98
694	Equipment Supplies	0	0	3	3811.97	2	19126.17
695	Furniture & Fixtures Supplies	0	0	1	2293.54	3	11321.36
699	Reimbursements	1	12770.68	1	3360.08	0	0
	Totals	***--***	***85,813.40***	***--***	***80,512.05***	***--***	***103,090.06***
	Totals Adjusted for Inflation (2006 $)	***--***	***93,372.58***	***--***	***87,604.24***	***--***	***112,171.12***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

Federal Noncompetitive Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title I Part C "Migrant Education"

This entitlement program provides supplementary education and human resources services to children aged 3-21 who are highly mobile because their parents or guardians move between school districts or other boundaries to seek temporary or seasonal work in agriculture or commercial fishing activities. Services focus primarily on the educational needs of the migrant child and attempt to alleviate barriers to successful educational achievement.

		2002-03		2003-04		2004-05	
Code	**Type of Disallowed Expenditure**	**Dists.**	**$**	**Dists.**	**$**	**Dists.**	**$**
131	Other Classified Pay	16	27,280.89	18	37,525.35	25	33,965.55
140	Overtime			1	27.60	2	2,097.45
150	Classified Substitute	3	1,217.16	7	12,423.07	3	9,176.36
293	Meal Reimbursements	2	11.96	1	13.21		
339	Other Professional Services	14	86,606.26	10	166,886.10	11	122,391.60
411	Water/Sewage	2	222.63	2	339.49	1	175.04
421	Sanitation Services	1	593.00				
895	Other Student Travel	2	2,223.97			1	1,746.65
896	Student Wages	3	1,170.55	4	1,667.65	2	914.37
898	Field Trips Non-Instructional	2	764.74				
931	Non-Reimbursable Fund Transfers					1	-26,893.00
	Totals	***--***	***120,091.16***	***--***	***218,882.47***	***--***	***143,574.02***
	Totals Adjusted for Inflation (2006 $)	***--***	***130,669.82***	***--***	***238,163.52***	***--***	***156,221.25***

Federal Noncompetitive Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title I Part C "Migrant Education"

		2002-03		2003-04		2004-05	
Code	**Type of Expenditure**	**Dists.**	**$**	**Dists.**	**$**	**Dists.**	**$**
210	Group Insurance	0	0	0	0	1	22.5
215	Disability Insurance	1	66.5	1	246.29	0	0
250	Unemployment Insurance	0	0	0	0	1	144.45
298	Other Employer Paid Benefits	1	336	1	336	1	252
446	Storage Container Rental	0	0	0	0	1	632
534	Cell Phone Services	1	57.08	1	512.01	1	384.44
535	Pagers	1	729.96	1	658.88	1	774.94
636	In-Service	1	1453.27	1	46.73	0	0
695	Furniture & Fixtures Supplies	0	0	0	0	1	258
	Totals	***--***	***2,642.81***	***--***	***1,799.91***	***--***	***2,468.33***
	Totals Adjusted for Inflation (2006 $)	***--***	***2,875.61***	***--***	***1,958.46***	***--***	***2,685.76***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

Federal Noncompetitive Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title I Part C "Perkins Vocational & Technical Education Act"

This Act helps to improve the quality and effectiveness of career/vocational and technical education programs, primarily by strengthening academic coursework, helping students understand all aspects of an industry, enhancing the use of technology for teaching, helping students prepare for high-tech and telecom jobs, enhancing teachers' professional development, linking secondary to postsecondary programs, and evaluating the effectiveness of initiatives funded under this grant. Once all of those issues are addressed, any additional funds may be used in a number of other ways to help students learn and obtain employment.

		2002-03		2003-04		2004-05	
Code	Type of Disallowed Expenditure	Dists.	$	Dists.	$	Dists.	$
111	Extended Days (Contract)	4	3,026.08	4	10,193.86	4	8,587.57
131	Other Classified Pay	12	6,986.25	14	9,285.31	17	8,766.24
140	Overtime	1	308.25	1	60.75	1	9.56
150	Classified Substitute	4	630.00	3	753.00	4	1,899.68
160	Licensed					1	1,795.99
293	Meal Reimbursements	5	727.41	5	278.53	3	145.96
335	Professional Consultant	1	2,958.84			1	750.00
339	Other Professional Services			2	76,752.00	3	82,837.64
340	Purchased Technical Services	1	1,170.52				
433	Equipment/Machinery/Furniture Repairs & Maintenance			1	160.00	2	1,489.00
434	Computer Repairs & Maintenance			1	800.54		
540	Advertising Services	1	80.00	2	176.25	2	127.00
569	Tuition Other	1	399.00				
589	Travel Other	2	18,486.71	2	17,591.36	1	22,798.59
590	Other Purchased Services			1	1,509.76	2	1,352.60
591	Purchased Services Local			2	2,585.25	2	2,678.64
610	Supplies	61	476,905.20	70	556,765.40	68	459,338.20
644	Textbook & Other Instructional Materials Data Required for State Reporting	1	2,738.27	3	10,565.55	6	12,012.08
650	Supplies-Technology Related					4	10,152.75
670	Student Activities			1	44.25	2	221.82
731	Machinery and Equipment	1	529.98	4	8,634.45	1	2,257.54
733	Furniture and Fixtures	8	14,589.54	6	14,244.31	2	1,258.14
736	Other Administrative Equipment	1	1,930.09	3	5,268.03	1	1,020.33
739	Assets Under Threshold for Capitalization	2	57,630.34	3	80,185.85	3	55,645.39
895	Other Student Travel					2	2,348.32
899	Other Miscellaneous Expenditures			1	1,919.04		
931	Non-Reimbursable Fund Transfers	2	12,612.50	1	497.50		
933	Indirect Cost	2	2,479.21	2	2,677.00	2	2,170.00
	Totals	***--***	***604,188.19***	***--***	***800,947.99***	***--***	***679,663.04***
	Totals Adjusted for Inflation (2006 $)	***--***	***657,410.28***	***--***	***871,502.37***	***--***	***739,533.60***

Federal Noncompetitive Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title I Part C "Perkins Vocational & Technical Education Act"

		2002-03		2003-04		2004-05	
Code	Type of Expenditure	Dists.	$	Dists.	$	Dists.	$
210	Group Insurance	0	0	0	0	1	1.69
215	Disability Insurance	0	0	0	0	1	997.78
250	Unemployment Insurance	0	0	0	0	1	5.5
298	Other Employer Paid Benefits	1	336	1	336	1	336
310	Purchased Administrative Services	0	0	1	733.5	0	0
600	Supplies and Materials	1	3546.87	1	4609.89	1	1205.32
694	Equipment Supplies	1	446.84	2	14418.01	4	23488.79
695	Furniture & Fixtures Supplies	0	0	0	0	1	260
699	Reimbursements	0	0	0	0	1	206.87
	Totals	**--**	***4,329.71***	**--**	***20,097.40***	**--**	***26,501.95***
	Totals Adjusted for Inflation (2006 $)	**--**	***4,711.11***	**--**	***21,867.75***	**--**	***28,836.47***

Federal Noncompetitive Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title I Part D "Neglected & Delinquent"

This grant funds prevention and intervention programs for children and youth who are neglected, delinquent or at-risk. It helps to support educational programs in state-operated correctional facilities or community day programs, as well as school districts' programs that collaborate with such facilities and programs. Allocations are made to state agencies and to districts with high numbers or percentages of young people in local facilities and programs.

None of the expenditures for this grant were clearly disallowed.

Federal Noncompetitive Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title I Part D "Neglected & Delinquent"

		2002-03		2003-04		2004-05	
Code	Type of Expenditure	Dists.	$	Dists.	$	Dists.	$
298	Other Employer Paid Benefits	1	392.00	1	336.00	1	672.00
534	Cell Phone Services	0	0.00	1	263.57	0	0.00
535	Pagers	0	0.00	1	85.91	1	42.96
694	Equipment Supplies	0	0.00	0	0.00	1	1,900.00
	Totals	**--**	***392.00***	**--**	***685.48***	**--**	***2,614.96***
	Totals Adjusted for Inflation (2006 $)	**--**	***426.53***	**--**	***745.86***	**--**	***2,845.31***

Federal Noncompetitive Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title II Part A "Teacher Quality"

This grant emphasizes teacher quality as a significant factor in improving student achievement. Funds are used for recruiting highly qualified teachers; providing incentives for teachers in high-need areas; offering professional development in core academic areas; retaining teachers through mentoring, induction, and other support services; reforming tenure; providing merit pay to teachers; testing teachers in academic areas; carrying out programs that emphasize multiple career paths for teachers; and reducing class size.

		2002-03		2003-04		2004-05	
Code	Type of Disallowed Expenditure	Dists.	$	Dists.	$	Dists.	$
131	Other Classified Pay	5	54,009.38	7	36,776.29	5	10,454.36
150	Classified Substitute	5	3,511.75	4	1,912.50	2	2,720.37
170	Para-Professional	1	1,102.97			1	847.55
293	Meal Reimbursements	2	91.85			1	13.28
330	Purchased Professional Services	20	52,123.77	23	92,670.56	24	158,925.50
514	Contracted Bus Services					1	1,003.37
627	Diesel Fuel Data Required for Federal Reporting			1	31.25		
650	Supplies-Technology Related					2	1,301.23
673	Fees and Registrations	1	83,248.68	2	3,782.10		
730	Other Fixed Assets			2	12,860.30	2	19,624.00
894	Field Trips Instructional			1	44.62	1	970.08
899	Other Miscellaneous Expenditures	1	2,804.00	1	22,749.00	3	441.92
931	Non-Reimbursable Fund Transfers					1	215,109.00
	Totals	***--***	***196,892.40***	***--***	***170,826.62***	***--***	***411,410.66***
	Totals Adjusted for Inflation (2006 $)	***--***	***214,236.37***	***--***	***185,874.50***	***--***	***447,651.25***

Federal Noncompetitive Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title II Part A "Teacher Quality"

		2002-03		2003-04		2004-05	
Code	Type of Expenditure	Dists.	$	Dists.	$	Dists.	$
114	National Teacher Certification	2	10,666.96	0	0.00	1	29,818.37
210	Group Insurance	0	0.00	0	0.00	1	54.68
215	Disability Insurance	1	1,000.67	1	5,228.04	1	3,879.33
250	Unemployment Insurance	0	0.00	0	0.00	1	176.56
298	Other Employer Paid Benefits	1	1,862.00	1	1,904.00	1	3,769.85
600	Supplies and Materials	1	2,103.00	1	932.00	1	2,376.00
631	Catering	1	75.80	1	15.00	0	0.00
636	In-Service	1	7,260.48	1	1,814.19	1	2,368.25
695	Furniture & Fixtures Supplies	0	0.00	1	612.41	0	0.00
699	Reimbursements	1	34,628.29	1	700.60	0	0.00
	Totals	***--***	***57,597.20***	***--***	***11,206.24***	***--***	***42,443.04***
	Totals Adjusted for Inflation (2006 $)	***--***	***62,670.86***	***--***	***12,193.38***	***--***	***46,181.79***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

Federal Noncompetitive Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title II Part D "Enhancing Education Through Technology"

Many NCLB reforms, tools, and programs rely on increased and more effective uses of technology. Professional development ensures teachers understand how to integrate technology tools with their curriculum. Sources and uses of funds for technology have been made more flexible. Ongoing research strives to identify states' most effective improvement initiatives and measures the impact of technology on instruction and learning.

		2002-03		2003-04		2004-05	
Code	Type of Disallowed Expenditure	Dists.	$	Dists.	$	Dists.	$
330	Purchased Professional Services	3	13,978.03	7	-12,707.13	11	52,139.19
430	Repairs and Maintenance Services					2	10,372.38
433	Equipment/Machinery/Furniture Repairs & Main.			1	7,558.00	1	2,396.00
569	Tuition Other					1	687.50
590	Other Purchased Services	3	6,115.99	2	-5,873.83	2	6,050.00
610	Supplies	11	16,315.16	24	26,081.76	36	5,356.11
627	Diesel Fuel Data Required for Federal Reporting			1	68.40		
630	Food	2	692.23	3	-108.39	2	1,183.29
673	Fees and Registrations	1	40.00	1	1,010.00	3	-750.00
674	Awards					1	630.53
690	Other Supplies and Materials			3	1,419.61	3	1,558.60
730	Other Fixed Assets	6	26,799.65	3	57,286.30	5	-47,685.23
733	Furniture and Fixtures	1	81.70			1	-81.70
736	Other Administrative Equipment	1	150.95	3	647.89	1	-246.29
739	Assets Under Threshold for Capitalization			1	674.59		
894	Field Trips Instructional					2	568.05
896	Student Wages			1	150.00	2	-47.00
	Totals	***--***	***64,173.71***	***--***	***76,207.20***	***--***	***32,131.43***
	Totals Adjusted for Inflation (2006 $)	*--*	*69,826.68*	*--*	*82,920.18*	*--*	*34,961.84*

Federal Noncompetitive Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title II Part D "Enhancing Education Through Technology"

		2002-03		2003-04		2004-05	
Code	Type of Expenditure	Dists.	$	Dists.	$	Dists.	$
215	Disability Insurance	0	0.00	0	0.00	1	77.50
298	Other Employer Paid Benefits	0	0.00	1	166.87	1	336.00
636	In-Service	0	0.00	0	0.00	1	1,500.00
	Totals	***--***	***0.00***	***--***	***166.87***	***--***	***1,913.50***
	Totals Adjusted for Inflation (2006 $)	***--***	***0.00***	***--***	***181.57***	***--***	***2,082.06***

Notes: This source has both competitive and noncompetitive grants. A negative dollar amount usually indicates a correction of a mistake made in a previous year.

Federal Noncompetitive Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title III Limited English Proficiency (LEP)

This grant helps to increase the English language proficiency of students by providing high-quality language instruction programs based on scientifically based research and high-quality professional development to classroom teachers, principals, administrators, and other school or community-based organizations. Funds may be used to develop and implement high-quality language instructional programs and academic content instruction programs; highly focused, innovative, locally designed activities to expand or enhance existing LEP programs; and schoolwide or districtwide programs for restructuring, reforming, and upgrading all relevant programs, activities, and operations of programs related to LEP.

		2002-03		2003-04		2004-05	
Code	Type of Disallowed Expenditure	Dists.	$	Dists.	$	Dists.	$
131	Other Classified Pay			5	26,071.73	4	58,738.44
730	Other Fixed Assets			1	2,052.00		
731	Machinery and Equipment					1	1,194.13
896	Student Wages					1	134.01
	Totals	***--***	***0.00***	***--***	***28,123.73***	***--***	***60,066.58***
	Totals Adjusted for Inflation (2006 $)	***--***	***0.00***	***--***	***30,601.11***	***--***	***65,357.76***

Federal Noncompetitive Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title III Limited English Proficiency (LEP)

There were no expenditures lacking guidelines for this grant.

Federal Noncompetitive Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title IV "Safe & Drug Free Schools & Communities"

This grant seeks to prevent violence in and around schools and to support programs that prevent the illegal use of alcohol, tobacco, and drugs through a school- and community-based environment.

		2002-03		2003-04		2004-05	
Code	**Type of Disallowed Expenditure**	**Dists.**	**$**	**Dists.**	**$**	**Dists.**	**$**
131	Other Classified Pay	5	23,131.51	7	16,986.45	5	11,172.88
293	Meal Reimbursements	1	6.83			1	9.00
334	Medical Services	1	4,354.13	1	-125.00	2	1,623.00
335	Professional Consultant	8	12,071.69	5	35,215.53	5	26,605.72
430	Repairs and Maintenance Services					1	505.05
433	Equipment/Machinery/Furniture Repairs & Maintenance	2	-4,423.52				
440	Rentals			1	414.30	1	210.41
441	Land or Building Rental	1	2,000.00	1	2,000.00		
443	Copier Rental (Not Capital Lease)	1	10,026.77	1	2,469.04		
561	Tuition Kentucky LEA	1	20,032.00				
627	Diesel Fuel Data Required for Federal Reporting	1	26.80				
644	Textbook & Other Instructional Materials Data Required for State Reporting	1	121.00	2	1,946.24	4	2,971.25
650	Supplies-Technology Related			2	10,947.37	1	1,041.99
674	Awards	1	174.65	2	2,411.97	1	1,100.00
675	Organization Supplies	1	500.00	1	500.00	2	796.89
730	Other Fixed Assets	4	28,428.08	2	18,970.23	4	-11,012.12
731	Machinery and Equipment	3	15,512.43	5	48,736.51	5	28,169.25
733	Furniture and Fixtures	1	-219.00	1	495.00		
734	Computers and Related Equipment	9	15,003.47	12	45,583.86	8	9,340.58
735	Instructional Equipment	2	3,261.00	9	5,987.37	1	1,560.21
895	Other Student Travel	1	1,000.00	1	188.00		
896	Student Wages	1	2,000.00				
898	Field Trips Non-Instructional	1	260.00				
899	Other Miscellaneous Expenditures	3	2,777.46	2	2,676.44	3	3,566.79
	Totals	***--***	***136,045.30***	***--***	***195,403.31***	***--***	***77,660.90***
	Totals Adjusted for Inflation (2006 $)	***--***	***148,029.34***	***--***	***212,616.11***	***--***	***84,501.94***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

Federal Noncompetitive Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not

Number of Districts Reporting Expenditures For This Grant and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title IV "Safe & Drug Free Schools & Communities"

		2002-03		2003-04		2004-05	
Code	**Type of Expenditure**	**Dists.**	**$**	**Dists.**	**$**	**Dists.**	**$**
210	Group Insurance	0	0.00	0	0.00	1	7.20
215	Disability Insurance	1	1,332.49	1	1,651.44	1	1,516.85
250	Unemployment Insurance	0	0.00	0	0.00	1	35.95
319	Other Administrative Services	0	0.00	1	2,392.48	1	8,132.00
321	Workshop Consultant	1	2,552.00	0	0.00	0	0.00
322	Education Consultant	1	71,911.59	1	56,823.77	1	73,644.48
534	Cell Phone Services	0	0.00	1	43.68	0	0.00
692	Health Supplies	0	0.00	0	0.00	1	20.00
694	Equipment Supplies	1	13,894.36	1	10,302.54	2	14,789.02
699	Reimbursements	1	145,580.20	1	3,874.31	0	0.00
932	Reimbursable Fund Transfers	1	22,943.03	0	0.00	0	0.00
	Totals	**--**	***258,213.67***	**--**	***75,088.22***	**--**	***98,145.50***
	Totals Adjusted for Inflation (2006 $)	**--**	***280,959.35***	**--**	***81,702.64***	**--**	***106,791.00***

Federal Noncompetitive Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title V Part A "Innovative Programs"

This grant funds a wide variety of innovative projects and activities that seek to improve student academic achievement, to promote challenging academic achievement standards, and to support overall education reform. Congress has created 27 specific innovative program areas relating to such topics as teacher quality/professional development, parental options (choice of schools), technology and educational materials, students with special needs, literacy, community service, and health services.

		2002-03		2003-04		2004-05	
Code	**Type of Disallowed Expenditure**	**Dists.**	**$**	**Dists.**	**$**	**Dists.**	**$**
131	Other Classified Pay	6	8,102.99	4	5,618.92	9	12,093.61
569	Tuition Other			1	3,547.50	1	276.00
644	Textbook& Other Instructional Materials Data Required for State Reporting	1	1,852.12	2	3,328.66	1	478.90
650	Supplies-Technology Related					2	2,689.40
676	Scholarships					1	400.75
690	Other Supplies and Materials	1	788.48	2	5,012.16	5	8,798.96
731	Machinery and Equipment			1	487.99		
739	Assets Under Threshold for Capitalization					1	18.54
898	Field Trips Non-Instructional	1	188.00				
	Totals	***--***	***10,931.59***	***--***	***17,995.23***	***--***	***24,756.16***
	Totals Adjusted for Inflation (2006 $)	*--*	*11,894.54*	*--*	*19,580.40*	*--*	*26,936.90*

Federal Noncompetitive Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title V Part A "Innovative Programs"

		2002-03		2003-04		2004-05	
Code	**Type of Expenditure**	**Dists.**	**$**	**Dists.**	**$**	**Dists.**	**$**
210	Group Insurance	0	0.00	0	0.00	1	3.37
215	Disability Insurance	1	1,580.19	1	1,571.75	1	1,265.39
250	Unemployment Insurance	0	0.00	0	0.00	1	217.51
298	Other Employer Paid Benefits	1	154.00	1	336.00	1	168.00
321	Workshop Consultant	1	500.00	1	14,223.00	1	2,620.70
322	Education Consultant	0	0.00	1	525.00	1	375.00
634	Extended School Services	0	0.00	1	134.40	0	0.00
	Totals	***--***	***2,234.19***	***--***	***16,790.15***	***--***	***4,649.97***
	Totals Adjusted for Inflation (2006 $)	***--***	***2,431.00***	***--***	***18,269.17***	***--***	***5,059.58***

Federal Noncompetitive Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: Individuals with Disabilities Education Act (IDEA), Basic

The purpose of this grant is to ensure equity, accountability, and excellence in education for children with disabilities. It gives states, localities, educational service agencies, federal agencies, and parents the tools to provide special education and services that meet children's unique needs and prepare them for further education, employment, and independent living.

		2002-03		2003-04		2004-05	
Code	Type of Disallowed Expenditure	Dists.	$	Dists.	$	Dists.	$
131	Other Classified Pay	52	603,622.80	59	661,070.40	20	36,205.28
293	Meal Reimbursements	4	530.62	5	470.28	5	575.58
	Totals	***--***	***604,153.42***	***--***	***661,540.68***	***--***	***36,780.86***
	Totals Adjusted for Inflation (2006 $)	***--***	***657,372.44***	***--***	***719,814.87***	***--***	***40,020.83***

Federal Noncompetitive Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: Individuals with Disabilities Education Act (IDEA), Basic

		2002-03		2003-04		2004-05	
Code	Type of Expenditure	Dists.	$	Dists.	$	Dists.	$
210	Group Insurance	0	0.00	0	0.00	1	82.56
215	Disability Insurance	1	37,941.68	1	47,412.59	1	34,970.46
250	Unemployment Insurance	0	0.00	0	0.00	1	986.12
298	Other Employer Paid Benefits	1	6,062.00	1	6,818.00	1	6,328.00
299	Other Employee Benefits	0	0.00	1	-205.54	0	0.00
312	KSBA Policy Services	1	1,000.00	2	2,000.00	4	5,000.00
319	Other Administrative Services	0	0.00	0	0.00	1	30.00
321	Workshop Consultant	1	9,735.00	0	0.00	0	0.00
535	Pagers	0	0.00	1	431.17	1	432.84
692	Health Supplies	0	0.00	0	0.00	1	1,951.88
694	Equipment Supplies	0	0.00	2	7,842.27	4	13,843.87
695	Furniture & Fixtures Supplies	0	0.00	2	5,804.19	3	2,335.63
	Totals	***--***	***54,738.68***	***--***	***70,102.68***	***--***	***65,961.36***
	Totals Adjusted for Inflation (2006 $)	*--*	*59,560.53*	*--*	*76,277.93*	*--*	*71,771.80*

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

Federal Noncompetitive Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: Individuals with Disabilities Education Act (IDEA), Preschool

This grant assists states in the implementation of a statewide, comprehensive, coordinated, multidisciplinary, interagency system of early intervention services for infants and toddlers with disabilities and their families.

		2002-03		2003-04		2004-05	
Code	Type of Disallowed Expenditure	Dists.	$	Dists.	$	Dists.	$
131	Other Classified Pay	24	38,407.56	20	47,510.30	64	972,505.40
341	Drug Testing					1	56.00
	Totals	**--**	***38,407.56***	**--**	***47,510.30***	**--**	***972,561.40***
	Totals Adjusted for Inflation (2006 $)	**--**	***41,790.83***	**--**	***51,695.42***	**--**	***1,058,232.96***

Federal Noncompetitive Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: Individuals with Disabilities Education Act (IDEA), Preschool

		2002-03		2003-04		2004-05	
Code	Type of Expenditure	Dists.	$	Dists.	$	Dists.	$
210	Group Insurance	0	0.00	0	0.00	1	23.79
215	Disability Insurance	1	1,589.68	1	1,947.33	1	767.77
250	Unemployment Insurance	0	0.00	0	0.00	1	59.99
298	Other Employer Paid Benefits	1	364.00	1	168.00	1	672.00
322	Education Consultant	1	263,619.10	1	232,295.00	1	293,109.80
695	Furniture & Fixtures Supplies	0	0.00	0	0.00	1	1,197.00
	Totals	**--**	***265,572.78***	**--**	***234,410.33***	**--**	***295,830.35***
	Totals Adjusted for Inflation (2006 $)	**--**	***288,966.71***	**--**	***255,059.21***	**--**	***321,889.63***

Federal Competitive Grant Expenditures - Accord With Guidelines Available
Overall Summary by Fiscal Year

	2002-03		2003-04		2004-05	
	$	%	$	%	$	%
NCLB Title I Part B Subpart 3"Even Start"						
Total Expenditures	2,747,582.86	100.0	3,130,338.77	100.0	3,057,549.96	100.0
Disallowed in Guidelines	0.00	0.0	0.00	0.0	0.00	0.0
No Guidelines Available	168.38	0.0	614.78	0.0	351.61	0.0
Apparently Meet Guidelines	2,747,414.48	100.0	3,129,723.99	100.0	3,057,198.35	100.0
NCLB Title II Part D "Education Technology" [This source has both competitive and non-competitive grants.]						
Total Expenditures	14,232.00	100.0	4,085,587.80	100.0	4,079,251.12	100.0
Disallowed in Guidelines	14,232.00	100.0	50,880.94	1.2	-85,753.60	-2.1
No Guidelines Available	0.00	0.0	166.87	0.0	1,913.50	0.0
Apparently Meet Guidelines	0.00	0.0	4,034,539.99	98.8	4,163,091.22	102.1
NCLB Title X Part C Stewart B. McKinney Vento Assistance Act for Homeless Children & Youth						
Total Expenditures	720,675.37	100.0	664,111.94	100.0	759,688.64	100.0
Disallowed in Guidelines	26,682.71	3.7	19,871.74	3.0	19,803.42	2.6
No Guidelines Available	229.72	0.0	0.00	0.0	65.71	0.0
Apparently Meet Guidelines	693,762.94	96.3	644,240.20	97.0	739,819.51	97.4
Totals For All Above Grants						
Total Expenditures	*3,482,490.23*	*100.0*	*7,880,038.51*	*100.0*	*7,896,489.72*	*100.0*
Disallowed in Guidelines	*40,914.71*	*1.2*	*70,752.68*	*0.9*	*-65,950.18*	*-0.8*
No Guidelines Available	*398.10*	*0.0*	*781.65*	*0.0*	*2,330.82*	*0.0*
Apparently Meet Guidelines	*3,441,177.42*	*98.8*	*7,808,504.18*	*99.1*	*7,960,109.08*	*100.8*
Totals Adjusted for Inflation (2006 $)						
Total Expenditures	*3,789,257.89*	*100.0*	*8,574,180.01*	*100.0*	*8,592,080.38*	*100.0*
Disallowed in Guidelines	*44,518.83*	*1.2*	*76,985.18*	*0.9*	*-71,759.64*	*-0.8*
No Guidelines Available	*433.17*	*0.0*	*850.50*	*0.0*	*2,536.14*	*0.0*
Apparently Meet Guidelines	*3,744,305.89*	*98.8*	*8,496,344.32*	*99.1*	*8,661,303.88*	*100.8*

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

Federal Competitive Grant Money Used for Disallowed Expenditures
Summary of Disallowed Expenditures by Type and Fiscal Year

Code	Type of Disallowed Expenditure	2002-03	2003-04	2004-05
131	Other Classified Pay	5,007.38	1,800.00	5,698.85
140	Overtime	0.00	276.48	40.29
297	Federally Funded Flexible Spending Benefits	15,678.04	12,236.38	12,130.28
330	Purchased Professional Services	1,000.00	3,000.00	175.00
334	Medical Services	98.25	70.00	0.00
430	Repairs and Maintenance Services	1,412.77	210.00	0.00
610	Supplies	0.00	0.00	6,405.00
630	Food	0.00	3,210.75	0.00
690	Other Supplies and Materials	0.00	1,303.39	0.00
733	Furniture and Fixtures	0.00	354.38	0.00
739	Assets Under Threshold for Capitalization	0.00	31,559.80	-63,119.60
810	Dues, Fees and Registrations	15.00	1,580.00	1,759.00
892	Parent Involvement Meetings	637.00	0.00	0.00
896	Student Wages	2,834.27	344.50	0.00
	Totals	***26,682.71***	***55,945.68***	***-36,911.18***
	Totals Adjusted for Inflation (2006 $)	***29,033.15***	***60,873.86***	***-40,162.63***

Federal Competitive Grant Money Used for Expenditures That Have
No Guidelines As to Whether They Are Allowed or Not
Summary of Expenditures Having No Guidelines Across All Grants by Fiscal Year

Code	Type of Expenditure	2002-03	2003-04	2004-05
215	Disability Insurance	398.10	251.78	393.07
298	Other Employer Paid Benefits	0.00	166.87	336.00
425	Pest Control Services	0.00	363.00	101.75
636	In-Service	0.00	0.00	1,500.00
	Totals	***398.10***	***781.65***	***2,330.82***
	Totals Adjusted for Inflation (2006 $)	***433.17***	***850.50***	***2,536.14***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

Federal Competitive Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title I Part B Subpart 3 "Even Start"

Even Start Family Literacy provides intensive family literacy services that integrate learning activities for parents and children, helping parents to become active partners in their children's education, and helping children to achieve a high level of success in school and life. Even Start offers educational opportunities to families most in need, as defined by levels of literacy, income, poverty, English as Second Language, and other related factors.

None of the expenditures for this grant were clearly disallowed.

Federal Competitive Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title I Part B Subpart 3 "Even Start"

		2002-03		2003-04		2004-05	
Code	**Type of Expenditure**	**Dists.**	**$**	**Dists.**	**$**	**Dists.**	**$**
215	Disability Insurance	1	168.38	1	251.78	1	249.86
425	Pest Control Services	0	0.00	1	363.00	1	101.75
	Totals	**--**	***168.38***	**--**	***614.78***	**--**	***351.61***
	Totals Adjusted for Inflation (2006 $)	**--**	***183.21***	**--**	***668.94***	**--**	***382.58***

Note: A negative dollar amount usually indicates a correction of a mistake made in a previous year.

Federal Competitive Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title II Part D "Enhancing Education Through Technology"

Many NCLB reforms, tools, and programs rely on increased and more effective uses of technology. Professional development ensures teachers understand how to integrate technology tools with their curriculum. Sources and uses of funds for technology have been made more flexible. Ongoing research strives to identify states' most effective improvement initiatives and measures the impact of technology on instruction and learning.

		2002-03		2003-04		2004-05	
Code	Type of Disallowed Expenditure	Dists.	$	Dists.	$	Dists.	$
610	Supplies	0	0.00	0	0.00	36	6,405.00
630	Food	0	0.00	1	3,210.75	2	0.00
690	Other Supplies and Materials	0	0.00	1	1,303.39	3	0.00
730	Other Fixed Assets	1	14,232.00	1	14,807.00	5	-29,039.00
739	Assets Under Threshold for Capitalization	0	0.00	1	31,559.80	0	-63,119.60
	Totals	***--***	***14,232.00***	***--***	***50,880.94***	***--***	***-85,753.60***
	Totals Adjusted for Inflation (2006 $)	***--***	***15,485.68***	***--***	***55,362.97***	***--***	***-93,307.51***

Federal Competitive Grant Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title II Part D "Enhancing Education Through Technology"

		2002-03		2003-04		2004-05	
Code	Type of Expenditure	Dists.	$	Dists.	$	Dists.	$
215	Disability Insurance	0	0.00	0	0.00	1	77.50
298	Other Employer Paid Benefits	0	0.00	1	166.87	1	336.00
636	In-Service	0	0.00	0	0.00	1	1,500.00
	Totals	***--***	***0.00***	***--***	***166.87***	***--***	***1,913.50***
	Totals Adjusted for Inflation (2006 $)	***--***	***0.00***	***--***	***181.57***	***--***	***2,082.06***

Notes: This source has both competitive and noncompetitive grants. A negative dollar amount usually indicates a correction of a mistake made in a previous year.

Federal Competitive Grant Money Used for Disallowed Expenditures
Number of Districts With Expenditures Not Allowed by This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title X Part C Stewart B. McKinney-Vento Assistance Act, Homeless Children & Youth

To help ensure that homelessness does not cause children to be left behind in school, funds are used for such things as tutoring; supplemental services; enrichment services; evaluation of strengths and needs of homeless children; professional development; provision of referral services for medical, dental, mental, and other health services; transportation costs; programs to retain homeless children in public schools; mentoring; homework assistance; and costs for obtaining records and for providing education and training to parents about rights and resources.

		2002-03		2003-04		2004-05	
Code	Type of Disallowed Expenditure	Dists.	$	Dists.	$	Dists.	$
131	Other Classified Pay	1	5,007.38	2	1,800.00	3	5,698.85
140	Overtime			1	276.48	1	40.29
297	Federally Funded Flexible Spending Benefits	6	15,678.04	7	12,236.38	6	12,130.28
330	Purchased Professional Services	1	1,000.00	1	3,000.00	1	175.00
334	Medical Services	1	98.25	1	70.00		
430	Repairs and Maintenance Services	2	1,412.77	1	210.00		
733	Furniture and Fixtures			1	354.38		
810	Dues, Fees and Registrations	1	15.00	2	1,580.00	4	1,759.00
892	Parent Involvement Meetings	1	637.00				
896	Student Wages	1	2,834.27	1	344.50		
	Totals	***--***	***26,682.71***	***--***	***19,871.74***	***--***	***19,803.42***
	Totals Adjusted for Inflation (2006 $)	***--***	***29,033.15***	***--***	***21,622.21***	***--***	***21,547.88***

Federal Competitive Money Used for Expenditures That Have No Guidelines As to Whether They Are Allowed or Not
Number of Districts Reporting Expenditures For This Grant
and Total Amount of Those Expenditures by Fiscal Year

Grant: NCLB Title X Part C Stewart B. McKinney-Vento Assistance Act, Homeless Children & Youth

		2002-03		2003-04		2004-05	
Code	Type of Expenditure	Dists.	$	Dists.	$	Dists.	$
215	Disability Insurance	1	229.72	0	0.00	1	65.71
	Totals	***--***	***229.72***	***--***	***0.00***	***--***	***65.71***
	Totals Adjusted for Inflation (2006 $)	***--***	***249.96***	***--***	***0.00***	***--***	***71.50***

Appendix F

Inventory of Indicators

This inventory is based on the National Forum for Education Statistics' *Forum Guide to Education Indicators*. Information regarding sources of Kentucky education data was added from other publications and documentation. These indicators are representative of those most often used in research on efficiency, effectiveness, and achievement. The right-most column provides a few cursory comments, such as the extent to which each indicator meets the National Forum's standards for best practices. Validity, reliability, and other qualities should be analyzed in depth before using an indicator for long-term tracking of efficiency and effectiveness.

Indicator	Input			Process		Out-come	Source for KY (N.A.= not avail.)	Validity and Reliability Notes/Other Comments
	Student/Family/ Community Characteristic	Financial Resources	School/Staff Characteristics	School Climate	Opportunity to Learn	School Performance		
Guide to abbreviations: Census = U.S. Census Bureau; CPE = Council on Postsecondary Education; DOJ = Department of Justice; EPSB = Education Professional Standards Board; ETS = Educational Testing Service; KDE = Kentucky Department of Education; NCES = National Center for Education Statistics; OEA = Office of Education Accountability								
Achievement test scores and proficiency levels by grade and subject, on each test (KY Core Content Tests, NAEP, norm-referenced tests)						**X**	KDE	No single test score is reliable enough for high stakes decisions (Heubert and Houser 12). Average score can improve without a change in proficiency level; for example, the average score can move up within the apprentice category before it surpasses the cutoff for proficient (National Forum. 29). NAEP is available for only about 2500 students in 100 schools (U.S. Dept. of Ed. Natl. Center. *How the Samples*).
College Entrance/ Readiness Exam Scores (ACT/EXPLORE/PLAN)						**X**	KDE, ACT	For students taking exams multiple times, some institutions report most recent score while others report highest score. Some researchers say these measure only college readiness not secondary school achievement (National Forum. 39). ACT below 18 may indicate need for postsecondary remedial courses (Commonwealth of KY. Council).
Attendance Rate	**X**				**X**	**X**	KDE	Attendance for elementary school students is measured once daily, while middle and high school attendance is measured for every class (Commonwealth of KY. Dept. of Ed. *Pupil Attendance Manual*). Effective July 1, 2006, attendance for all students in the state will be calculated based on the actual time the student is absent from school rather than the percentages that were previously required by regulation (Perry).

Indicator	Input			Process		Out-come	Source for KY (N.A.= not avail.)	Validity and Reliability Notes/Other Comments
	Student/Family/ Community Characteristic	Financial Resources	School/Staff Characteristics	School Climate	Opportunity to Learn	School Performance		
Guide to abbreviations: Census = U.S. Census Bureau; CPE = Council on Postsecondary Education; DOJ = Department of Justice; EPSB = Education Professional Standards Board; ETS = Educational Testing Service; KDE = Kentucky Department of Education; NCES = National Center for Education Statistics; OEA = Office of Education Accountability								
Graduation/ Completion Rate					**X**	**X**	KDE	Students who take more than the standard number of years to complete high school should not be counted as either dropouts or completers (National Forum. 57). Kentucky recently moved to 4-year "cohort" rate definition.
Dropout Rate					**X**	**X**	KDE	Schools with highly mobile student populations may report inflated dropout rates because it may be difficult to track and verify transfers to other schools (National Forum. 61).
Student Retention Rate (1 minus Promotion Rate)					**X**	**X**	KDE	Different organizations may have different promotion policies, which limits comparability (National Forum 72).
Transition to Adult Life						**X**	KDE	Examples: college, employed 30+ hours/week, military
Accountability Index Score and Classification (Meets Goal, Progressing, Assistance)						**X**	KDE	Changes over time in the way the accountability index is calculated could make it difficult to examine long-term trends.
Adequate Yearly Progress (AYP) and NCLB Tier (Consequences for Not Meeting AYP 2+ Years)					**X**	**X**	KDE	Since improvement category thresholds change from year to year, longitudinal records should not be used for trend analysis (National Forum 21).
Revenues and Grants		**X**					KDE, NCES	Allows analysis of targeted programs and projects
Expenditures, Total or Current, by Function and Object; Use of Funds by Project and Program		**X**					KDE, NCES	Some function and object codes are not used consistently. Some types of spending, such as professional development, are difficult to study due to lack of detailed data.
Student's Prior Performance	**X**						KDE	Prior test scores serve as baseline for gauging growth or value added.
Student Demographics (such as Age, Gender, Ethnicity/Race)	**X**						N.A.	Data are not readily available but might be in near future as a result of Kentucky's new unique student ID. Self-identified ethnicity/race can differ from assigned ethnicity/race (Kressin).

Indicator	Input			Process		Out-come	Source for KY (N.A.= not avail.)	Validity and Reliability Notes/Other Comments
	Student/Family/ Community Characteristic	Financial Resources	School/Staff Characteristics	School Climate	Opportunity to Learn	School Performance		
Guide to abbreviations: Census = U.S. Census Bureau; CPE = Council on Postsecondary Education; DOJ = Department of Justice; EPSB = Education Professional Standards Board; ETS = Educational Testing Service; KDE = Kentucky Department of Education; NCES = National Center for Education Statistics; OEA = Office of Education Accountability								
Student Participation in Programs - individual student level or percent of school's or district's students participating	**X**						KDE	These identify special needs of some students. Examples include IDEA-B, Special Education, Gifted/Talented, Extended School Services, Free/Reduced-price Lunch (FRL), Limited English Proficiency (LEP), Migrant, and Title I. FRL is often used as proxy for poverty but is less useful for older students because some refuse to participate. The LEP counts for NCLB reporting include those exiting LEP programs within past two years.
Parents' Socioeconomic Status --Education, Income, Occupation	**X**						N.A.	This is not available at the student level. Proxies for all of these are Census measures for adults in surrounding community, available by district through NCES. If this information is collected at the individual student level, a parent with more than one child in a school would have more "weight" in the school's statistics (National Forum 49).
Home Environment: Activities & Communication about Learning	**X**						N.A.	This is difficult to measure. Schools that work with families to improve home environment can overcome much of the negative impact of low socioeconomic status. (Marzano. *What Works*).
Parental Involvement in Student's Education	**X**			**X**			KDE	The Kentucky School Report Card reports percent of students whose parent/guardian had conference; parents voting in School Based Decision Making (SBDM) elections; parents serving on SBDM or committees; and volunteer hours. This does not indicate how many parents volunteered or what types of activities the volunteers engaged in (Commonwealth of KY. Dept. of Ed. *School Report*).
Demographics of Community	**X**					**X**	NCES, Census	Examples include population growth rate, education, income, occupation, and single-parent households
Local Economy	**X**					**X**	NCES, BLS, DOJ	Examples include unemployment, cost of living, job growth

Indicator	Input			Process		Out-come	Source for KY (N.A.= not avail.)	Validity and Reliability Notes/Other Comments
	Student/Family/ Community Characteristic	Financial Resources	School/Staff Characteristics	School Climate	Opportunity to Learn	School Performance		
Guide to abbreviations: Census = U.S. Census Bureau; CPE = Council on Postsecondary Education; DOJ = Department of Justice; EPSB = Education Professional Standards Board; ETS = Educational Testing Service; KDE = Kentucky Department of Education; NCES = National Center for Education Statistics; OEA = Office of Education Accountability								
Type of Location	**X**						NCES, Census, DOJ	Examples include Urban/Suburban/Rural and High-Crime/Low-Crime area
District Size			**X**				KDE	Examples include enrollment and number of schools
Support for Schools	**X**						Various	Examples include local tax effort, volunteer hours, and corporate contributions
Type of School			**X**				KDE	Elementary, middle, high
School Size and growth			**X**	**X**			KDE	Can be based on ADA or enrollment/membership
School's student composition			**X**				KDE	Demographic characteristics, percent of students participating in various types of programs
Student/Instructional Computer Ratio, Classrooms with at Least One Student Workstation with Internet Access		**X**	**X**		**X**		KDE	Definitions vary by school and computer use. Capacity and speed are not accounted for (National Forum 80).
School Capacity, Percent Used		**X**	**X**	**X**			KDE	Average Daily Attendance (ADA) provides a more accurate picture of school crowding than Average Daily Membership (National Forum 77).
School Facilities		**X**	**X**				KDE	Examples include condition, unmet need, and capital outlays. School condition rankings do not always coincide with criteria (Commonwealth of KY. Legislative. *A Review*. 11). Data such as amounts and types of lighting may not be feasible to measure, but they may impact achievement (Jago and Tanner).
Transportation Services, Percentage Students Receiving		**X**					KDE	Due to wide geographic and demographic variations, transportation costs may vary substantially for schools with similar percentage of students being transported (National Forum 92).
Staffing		**X**	**X**		**X**		KDE	Examples include Student/Staff ratio and availability of specific specialists .
Teacher Compensation		**X**	**X**				KDE	Compensation is often tied to experience and education (National Forum 33).

Indicator	Input			Process		Out-come	Source for KY (N.A.= not avail.)	Validity and Reliability Notes/Other Comments
	Student/Family/ Community Characteristic	Financial Resources	School/Staff Characteristics	School Climate	Opportunity to Learn	School Performance		
Guide to abbreviations: Census = U.S. Census Bureau; CPE = Council on Postsecondary Education; DOJ = Department of Justice; EPSB = Education Professional Standards Board; ETS = Educational Testing Service; KDE = Kentucky Department of Education; NCES = National Center for Education Statistics; OEA = Office of Education Accountability								
Teacher Quality (Experience, Advanced Degrees, Major/Minor, Certification for subject, Emergency/Probationary/Alternate Route Certification)			**X**	**X**	**X**		KDE, EPSB	Certification measures qualifications but not overall quality (National Forum. 33). A school's average teacher experience is affected by enrollment, hiring, retirement, and turnover trends (National Forum 53).
Demographics of Teachers			**X**				KDE, EPSB	Examples include age, gender, and ethnicity/race
Teacher assignments			**X**		**X**		KDE	Data on teacher assignment to classes and types of students are currently unavailable because student identifiers cannot be matched with teachers.
Student/Teacher Ratio			**X**		**X**		KDE	This can vary by the definition of instructional staff and method of counting students. (National Forum 82).
Teacher Retention Rate			**X**	**X**			KDE	Context is important for interpreting this indicator. There are many possible causes of low retention, such as incentive packages that trigger retirements, attraction to better paying jobs, or unpleasant work environment/supervisor (National Forum 75).
Quality of college and university programs that prepare teachers and administrators			**X**				EPSB	Data are based on surveys of new teachers' satisfaction with how well the program prepared them.
Percent of teachers engaging in content-focused professional development related to content taught			**X**		**X**		KDE	Current data lack sufficient detail to examine professional development.
"Highly Qualified" Teachers and "Qualified" Instructional Paraprofessionals			**X**		**X**		KDE, EPSB	The public understanding of quality may not match the precise NCLB definition (National Forum 73).
Principal/Administrator Compensation		**X**	**X**				KDE, EPSB	Compensation is often tied to experience and education (National Forum 33).
Principals/Administrators Certification; Demographics of Principals							KDE, EPSB	

Indicator	Input			Process		Out-come	Source for KY (N.A.= not avail.)	Validity and Reliability Notes/Other Comments
	Student/Family/ Community Characteristic	Financial Resources	School/Staff Characteristics	School Climate	Opportunity to Learn	School Performance		
Guide to abbreviations: Census = U.S. Census Bureau; CPE = Council on Postsecondary Education; DOJ = Department of Justice; EPSB = Education Professional Standards Board; ETS = Educational Testing Service; KDE = Kentucky Department of Education; NCES = National Center for Education Statistics; OEA = Office of Education Accountability								
Teacher/Administrator Ratio		**X**	**X**				KDE	Job classifications and groupings can vary among districts. Some circumstances demand more or fewer staff; for example, an inexperienced instructor or a disadvantaged student group may require more administrative support (National Forum 90).
Stability Rate, Student Enrollment	**X**			**X**	**X**		KDE	It is easier to account for who stays at a school—stability—than who leaves (National Forum 79).
Teachers' Influence on School Policies				X	X		N.A.	One proxy may be percent of committees with teacher representative. Often influence is measured by asking teachers to rate their level of influence on a numeric scale.
Teachers' Control of Classroom					X		N.A.	This requires a survey of teachers and/or reporting by peer observers.
Instructional Strategies, such as Use of Technology in Instruction					X		KDE	Some information is available from brief student surveys at end of CATS achievement tests. The School Report Card reports qualitative information (Commonwealth of KY. *School Report*).
Absence Rate (from Class), Teacher			**X**	**X**	**X**		KDE	A zero absence rate is not reasonable or desirable. Professional development and sick leave are necessary and unavoidable (National Forum 19).
Average Class Size		**X**		**X**	**X**		KDE	This should be calculated only for academic or core classes not classes that allow either limited or unlimited enrollment such as special education or band. Student/Teacher Ratio is a reasonable proxy (National Forum 35 and 82).
Instructional Time Allotted				**X**	**X**		KDE	Measures time allotted rather than time actually used for instruction (National Forum 67).
Course content					**X**		KDE	The content of course with the same name may vary unless a comprehensive and unified course coding system is used (National Forum 41-43). This information may not be centrally collected and managed.

Indicator	Input			Process		Out-come	Source for KY (N.A.= not avail.)	Validity and Reliability Notes/Other Comments
	Student/Family/ Community Characteristic	Financial Resources	School/Staff Characteristics	School Climate	Opportunity to Learn	School Performance		
Guide to abbreviations: Census = U.S. Census Bureau; CPE = Council on Postsecondary Education; DOJ = Department of Justice; EPSB = Education Professional Standards Board; ETS = Educational Testing Service; KDE = Kentucky Department of Education; NCES = National Center for Education Statistics; OEA = Office of Education Accountability								
Courses, Advanced or AP: Enrollment and Completion					**X**	**X**	KDE	Local authorities determine whether a course is "advanced." Percentages should be calculated out of eligible students not all students. Some classes permit dual enrollment; thus, enrollment codes must be distinguishable in order to ensure accurate student counts (National Forum 41-43).
Course-taking (math, science, English, foreign language)					**X**		KDE	Percent of students and demographics of students taking specific types of courses
Vocational/Technical Programs, Non-Traditional: Enrollment, Completers					**X**	**X**	KDE	Definition of "non-traditional" depends on local labor market. Content of courses with the same name/code may vary unless a comprehensive and unified course coding system is used (National Forum 96).
Extracurricular Activities; School Awards & Recognition				**X**			KDE	Information reported in School Report Card is qualitative. (Commonwealth of KY. *School Report*).
Family and Community Engagement Programs and Initiatives – availability, participation				**X**			N.A.	This includes PTA, FRYSC, 4H, scouting, Parents As Teachers (PAT), 21st Century Community Learning Centers. It appears that this information is not systematically collected. A checklist on KDE's Web site helps schools and districts with self-evaluation (Commonwealth of KY. *School Checklist*).
Early Childhood Development enrollment					**X**		KDE	Includes preschool and Head Start
Disciplinary Practices				**X**	**X**		N.A.	This may require a survey of administrators and peer observation.
Placement of Students with Disabilities in Alternative Learning Environments	**X**			**X**	**X**		KDE	Special education may be age-based rather than grade-based. A student may be placed in more than one setting so the sum of percentages from all settings may be more than 100 percent (National Forum 69).
Public Alternative Classrooms and Schools for At-Risk Students				**X**	**X**		KDE	Disciplinary practices vary by school and district (National Forum 55 and 84).
Truancy Rate				**X**	**X**		KDE	Definitions may vary by locality (National Forum 93).

Indicator	Input			Process		Out-come	Source for KY (N.A.= not avail.)	Validity and Reliability Notes/Other Comments
	Student/Family/ Community Characteristic	Financial Resources	School/Staff Characteristics	School Climate	Opportunity to Learn	School Performance		
Guide to abbreviations: Census = U.S. Census Bureau; CPE = Council on Postsecondary Education; DOJ = Department of Justice; EPSB = Education Professional Standards Board; ETS = Educational Testing Service; KDE = Kentucky Department of Education; NCES = National Center for Education Statistics; OEA = Office of Education Accountability								
Expulsions and Suspensions—per 100 students, percentage of students receiving, and average duration;				**X**	**X**		KDE	Disciplinary policies and enforcement vary among districts. The unit of expulsion may vary: a student can be expelled from a school but remain eligible for services by the district, or the state expulsions can be reversed (National Forum 55 and 84).
Incidents involving Alcohol, Drugs, Weapons, Violence, or other Crime – number of incidents and number of students involved				**X**			KDE	This includes only incidents reported to police, so varies by reporting practices. This is available at the school level only, not for student groups or individuals (National Forum 27, 45-47, and 94).
School Procedures for Drug and Weapon Detection				**X**			KDE	Qualitative information from "school report card" (Commonwealth of KY. *School Report*).
"Persistently Dangerous" Schools, Percentage				**X**			KDE	NCLB definition
School Visitors Required to Sign In (Yes/No)				**X**			KDE	Reported in Kentucky School Report Card
All Parents/Guardians Receive District Discipline Code (Yes/No)				**X**			KDE	Reported in Kentucky School Report Card
Percent of Classrooms Able to Access Outside Phone Line				**X**			KDE	Reported in Kentucky School Report Card
School Improvement Standards and Indicators (SISI)—ratings from scholastic audits				**X**		**X**	KDE	Schools are rated on nine standards: curriculum; classroom evaluation/assessment; instruction; school culture; student, family, and community support; professional growth, development, and evaluation; leadership; organizational structure and resources; and comprehensive and effective planning. Ratings are based on expert judgment using varying materials within each organization (Commonwealth of KY. Dept. of Ed. *Standards*).

Appendix G

Summary of Selected Approaches to Estimating Efficiency and Effectiveness

Models	Inputs	Outputs	Analytical Approach	Who is Using This and in What Ways
S&P Return on Spending Index (RoSI)	1. Core Spending per Pupil (excludes capital outlays, transportation, food service) 2. Percent of students who are economically disadvantaged (free or reduced lunch), disabled, migrants, or English learners 3. Geographical Cost Variations	Math and Reading Proficiency (state assessment)	Ratio of proficiency to per-pupil core spending, adjusted for proportions of needy students and geographic costs.	• Media coverage and free Web access prompt widely scattered use • Michigan: S&P identified "Benchmark" schools that excel in reading or math, then facilitated regional "benchmarking" institutes on how to learn from those schools. • Kansas: S&P identified and interviewed "resource effective" districts, surveyed other districts, and helped state develop guiding principles and improvement strategies.
S&P Error Band Method	Economically disadvantaged students (percent of students receiving free or reduced lunches)	Math and Reading Proficiency (state assessment)	Line surrounded by "error band" shows proficiency expected based on percent of students receiving free/reduced lunch. Superior performers are those above band and sub-par performers are below.	See above.
Yecke's Efficiency/ Effectiveness Index (EEI)	1. Expenditures/ Revenues per Pupil 2. Economically disadvantaged students (percent of students receiving free or reduced lunches)	Graduation Rate	First, districts are grouped into quartiles based on percent of students receiving free/reduced lunch. EEI is a ratio of two ratios: district's performance relative to peers in its quartile divided by district's per-pupil spending relative to those peers.	Used in Minnesota. Yecke recommends that low-performing districts compare their practices and policies to those of high-performing districts. (Yecke was Minnesota Commissioner of Education until August 2005, when she became Florida's K-12 Chancellor.)

Models	Inputs	Outputs	Analytical Approach	Who is Using This and in What Ways
Massachusetts Effectiveness Indicator (EI)	Demographics of surrounding community—income, education, poverty, single-parent families, and non-English speaking households.	Average score on state assessment	Predicts district test score based on demographics. EI is district's actual score minus predicted. A positive EI suggests above-average efficiency; negative suggests below average.	Used in Massachusetts. Reports were issued annually from 1999 through 2003. According to Gaudet, the Massachusetts Office of Educational Quality and Accountability now applies this model at the level of schools rather than districts.
Education Production Function	Student, Family, School and Teacher demographics.	Can use any outcome, such as Test Scores or Graduation, Dropout, or Attendance Rates	Predicts outcomes and estimates impact of student, family, school, and teacher characteristics.	Used widely in both academic and state public policy research.
Nested Data Models	Student, Family, School and Teacher demographics.	Can use any outcome, such as Test Scores or Graduation, Dropout, or Attendance Rates	Using nested data, multi-staged models predict outcomes and estimate impact of student, family, school, and teacher characteristics.	Used widely in both academic and state public policy research.

Source: Compiled by OEA staff .