

# Insights

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ON EDUCATION POLICY, PRACTICE, AND RESEARCH

## MAKING EDUCATION DOLLARS WORK:

### *Understanding Resource Allocation*

This year, America's public school districts will spend more than \$310 billion to educate the nation's children. Policymakers, educators, researchers, and the general public want to know how these resources can be allocated effectively and efficiently to guarantee the success of all students. As expectations rise for students and teachers to perform at higher levels, the question of how best to support this reform through fiscal measures becomes even more critical. However, the extent to which education resources affect student performance is not well understood.

Experts disagree about how much education resources have increased in the last quarter century and how much these resources have affected student performance. There is, however, general agreement that student performance must improve significantly if students are to meet challenging academic and workplace standards. There is no question that education

finance systems must be examined to understand the link between resource allocation and student performance.

Current attention in the school finance policy arena has focused on the continuing rise in performance standards and the expectations for adequate resource support for student achievement. Some critics charge that public schools allocate resources or inputs inefficiently, citing rapidly climbing expenditures between 1975 and 2000 that have not been matched by student

### In This Issue

This is the first of two policy briefs about education resource allocation. The first issue introduces current research, practice, issues and concerns on the topic. The next *Insights* will present findings from research being conducted on resource allocation in the Southwestern Region to inform policymakers and practitioners in supporting high performing learning communities.



Rapid and dramatic change—doubling or tripling the percentage of students attaining proficiency—calls for new instructional strategies and intensified efforts to help every student learn. However, it is unlikely that revenues will double or triple in the next few years, so performance improvement also will require better approaches to allocating resources for teaching and learning.

achievement gains during the same time period. Educational outcomes—measured by student test performance—have remained the same or even declined in some academic subjects during the last quarter century (Hanushek, 1996). Other analysts report that inflation-adjusted spending has only maintained the overall level of per-pupil resources.

While many states specify high performance goals for all students, all too often measured performance falls short of expectations. For example, on the National Assessment of Education Progress (NAEP), an average of about 25 percent of students perform at or above proficiency levels on mathematics and about 32 percent perform at those levels on reading. Other NAEP test takers are at or below basic levels. This is a disappointing result for a nation that expects most students to master the core subjects of mathematics and reading. Current evidence from other assessments, such as the Third International Mathematics and Science Study and various state criterion-referenced tests, show similar perfor-

mance results. Rapid and dramatic change—doubling or tripling the percentage of students attaining proficiency—calls for new instructional strategies and intensified efforts to help every student learn. However, it is unlikely that revenues will double or triple in the next few years, so performance improvement also will require better approaches to allocating resources for teaching and learning.

The purpose of this policy brief is to introduce state policymakers to information about current practice and research on education resource allocation and to heighten awareness of the issues and concerns regarding this topic. This issue of *Insights* begins with a general description of patterns in education resource allocation over time, followed by a brief review of research about the relationship between resources and student performance. The next section provides an overview of tools to examine resource allocation that may shed new light on how resources can be allocated and used more effectively. This issue concludes by exploring topics state poli-

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**NCES National Results  
1997–98 Education Expenditures for All States**

Function	Percent
Instruction	61.8
Operations and maintenance of physical plant	9.8
School administration	5.7
Student support	5.0
Support for instructional staff	4.2
Food services	4.1
Student transportation	4.0
Other	3.3
General administration	2.1

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Source: National Center for Education Statistics. (2001). *Digest of education statistics, 2000*, Table 164. Washington, DC: U.S. Department of Education.

cymakers will face as they seek ways to allocate resources to support high standards and improved student performance.

## Resource Allocation: A Stable Pattern Over Time

Although experts disagree on many issues around the status of school finance, they do agree that resource allocation patterns have been remarkably stable for decades (Picus, 2001). Average per-student expenditures vary widely among the states, but fund allocations for instruction within states consistently constitute about 60 percent of total available resources. Similar patterns were found in a recent study of resource allocation in Texas school districts (Alexander et al., 2000). The researchers found high-performing school districts spent 57.6 percent of their operating expenditures on instruction, while low-performing districts spent slightly more (58.4 percent) and middle-performing districts a higher percentage (59.2 percent). Across the nation, within the category of instruction, the percentage of resources allocated to staff salaries has also remained remarkably uniform over several decades (National Center for Education Statistics, 1998).

Evidence gathered from all states for 1997–98 by the National Center for Education Statistics (NCES) shows instruction representing nearly 62 percent of expenditures, followed in importance by physical plant operations and maintenance at about 10 percent. General administration represents a small proportion of expenditures (about 2 percent), and school administration represents about 6 percent of expenditures. Studies by school finance experts support the results found in the NCES study

(Odden, 2000; Picus, 2001). They note that across states and regions, school districts also tend to spend their resources in about the same proportions as shown in the table of NCES national results.

Occasionally, a change occurs that provides districts with a revenue windfall or even a permanent and large increase in resources. For example, a change in the state school finance formula that adjusts for enrollment decline or growth may benefit some school districts. Or a district may experience sharp increases in property values and local support because of regional or even national economic shifts. It has been reported that school districts experiencing revenue increases allocate their new funds in the same broad spending categories as they did before the increase. Studies conducted since the 1980s have reported that schools use new money to hire staff for their instructional programs, the largest function within the budget. However, within instruction there are important distinctions. When school systems receive additional new resources, most are not spent on staff for the core instructional program but on new technology, specialists, teacher aides, and professional development linked to programs serving at-risk students, special education students, and students with English language difficulty. In many schools, these instructional staff members serve their special-needs students in pull-out programs, reducing the overall pupil-to-teacher ratio in the school and the district but not enhancing the general education program (Odden & Archibald, 2001; Rothstein, 1997). This pattern also is seen in districts that receive increased funds to adopt major new initiatives (Picus, 2001). These reform-oriented districts continue to retain control over most operat-

# What Is Resource Allocation in Education?

Resource allocation is the distribution of available revenue among functions such as instruction, school administration, student transportation, and physical plant operations and maintenance. Money is budgeted within each function for expenditure objects, such as salaries, benefits, professional development, and materials.

ing resources and allocate them in much the same way they were allocated before the reform initiative began.

The evidence suggests that education spending in U.S. districts and schools does not change easily. Decisions regarding allocation traditionally have focused on inputs rather than outputs. For example, the stability in staffing patterns across schools serving students of similar ages by and large reflects the use of staffing formulas based on the number of students and building square-footage measures. These and other allocation formulas are not based on outputs such as student achievement or graduation rates. Many inputs are more easily measured and reported; however, with the current emphasis on accountability and results, researchers have begun to explore ways to link resources with outcomes.

# Resource Allocation in the Southwestern Region

A recent study of resource allocation in Texas school districts provides new information about the link between student performance and spending within the Southwestern Region (Alexander et al., 2000). Districts were identified as high-, middle-, or low-performing. Researchers found that, on average, high-performing districts spent more per pupil than other districts. They allocated more proportionally to general administration, co-curricular activities, and other operating expenditures (such as transportation, food, plant maintenance, security, and data processing). However, they spent less proportionally than middle- or low-performing districts on instruction, school and instructional leadership, and guidance and counseling. Interviews with district administrators from seven high-performing districts revealed several innovative and effective practices that might have contributed to their success. These practices included the use of data to make instructional decisions, creation of elaborate “grow-your-own” teacher preparation programs, use of performance pay and sanctions tied to student performance, collaborative methods of drafting district/school budgets, and allocation of funds based on student need rather than on a per-pupil basis.

The Texas study of resource allocation provided new information useful to state and local



policymakers, yet many questions regarding resource allocation in the state and across the Southwestern Region remain unanswered. As a result, SEDL and the Charles A. Dana Center at The University of Texas at Austin are undertaking a larger research study to gain an in-depth understanding of resource allocation in relation to student performance in public school districts across the region.

Through the analysis of existing data collected and reported by states in SEDL's region, the study will explore differences in district spending in relation to varying levels of student achievement. SEDL and the Dana Center also will assess patterns in resource allocation practices and challenges related to high student performance through in-depth studies of school districts that have exhibited consistent, sustained performance improvement over time. The research results will shed light on the effects of state policies related to the adequacy of funding for school districts and provide state and local decision makers with information and strategies for improving the allocation of resources to support student success. For more information about these policy research projects, contact SEDL at 800-476-6861, visit SEDL's Web site at [www.sedl.org](http://www.sedl.org), or visit the Dana Center Web site at [www.utdanacenter.org](http://www.utdanacenter.org).

## Does Money Make a Difference? Connecting Resources to Outcomes

While researchers agree that schools consistently spend about 60 percent of revenues on instruction, experts still disagree about the nature of the relationship between spending and performance results. Using methods designed to explain and quantify an educational production function, economists and educational researchers have investigated the link between resources and student performance for several decades. A production function describes the important and powerful variables contributing to student performance outcomes measured by test scores or high school graduation rates.

An early study using production function methods is referred to as the Coleman Report of 1966. The study found that, overall, there is a weak association between school resources and student performance. Coleman and his associates instead determined that family background characteristics had a large and statistically significant effect on student performance. Scores of studies of education production functions have been conducted since the release of the Coleman Report; their results have been mixed—even conflicting. For example, economist Eric Hanushek used a method of tallying the results of statistical significance tests to summarize the results of a large number of production function studies and he found no systematic, positive relationship between school resources and student performance (Hanushek, 1986; Hanushek, 1997). Other researchers and policy-makers support Hanushek's conclusions.

In contrast, Larry Hedges and his

colleagues used a different technique called meta-analysis for summarizing the results of the same studies Hanushek examined. Hedges concluded that the relationship between resource inputs and student outcomes was consistent and positive and could, in fact, be used to frame educational policy (Hedges, Laine, & Greenwald, 1994). Hedges and his associates expanded their analysis in subsequent studies and reported that school inputs such as lower class size, teacher experience, and quality of teacher education are positively related to student outcomes. The effects are consistently positive and large enough to be educationally important (Hedges & Greenwald, 1996). In an experimental study in Tennessee, Achilles (1999) confirmed findings of a positive relationship between reduced class size and student outcomes.

New thinking about resource allocation suggests that resource effectiveness depends almost entirely on how resources are used in instruction. What matters is what students and teachers actually do with resources, not merely whether they are present. Following this line of reasoning, researchers point out that instructional improvement will not necessarily occur simply by increasing conventional resources such as the number of teachers, the salaries of existing teachers, the number of books, or the addition of computers. Rather, instructional improvement will depend on improving student and teacher skill and knowledge in using additional resources in instruction and learning activities. It also depends on principal knowledge and skill in enhancing the conditions that enable resource use by all members of the school community (Cohen, Raudenbush, & Ball, 2000). Considering the conflicting findings, it is easier to understand why finding

What matters is what students and teachers actually do with resources, not merely whether they are present.

# Can Class Size Reduction Make a Difference?

High expectations educators and policymakers hold for improved instruction in smaller classes are based in large part on the results of a class size reduction experiment conducted in Tennessee from 1985 to 1990. The study involved 10,000 students assigned to classes ranging in size from 13 to 17 students up to 22 to 26 students. The program was implemented in districts that had adequate personnel and space to accommodate the change. While the Tennessee STAR (Student/Teacher Achievement Ratio) project produced modest achievement gains for all students (as measured by scores on the Stanford Achievement Test, SAT-9), gains for low-income and minority students were almost twice as large as those for other students. The Tennessee experiment has encouraged other states such as California to reduce class sizes (see Class Size Reduction Research Consortium, 2000).

the direct connection between resources and student learning has proved to be so difficult.

## Getting Results: Tools to Explore Resource Allocation

Conflicting or inconclusive research findings on the connection between resources and student performance should not lead educators and policymakers to conclude that little can be done to make resource allocation more effective. Experts who study school finance believe that resource allocation decisions can be improved when desired outcomes are articulated and both the costs and benefits associated with reaching higher standards are understood and measured. For example, a new program to improve reading achievement may, when implemented, be dramatically successful. But if the program is 50 percent more successful and twice as expensive as a related program, policymakers will want to deliberate very carefully before they

allocate resources to the more costly program. Economists have developed cost analysis tools for exploring ways to allocate resources efficiently, or to get the greatest results from given resource levels. These include resource cost analysis, cost-effectiveness analysis, and cost-benefit analysis.

*Resource cost analysis.* Resource cost analysis is a systematic economic approach to identifying and pricing education inputs (Chambers, 1999). The general purpose of this approach is to identify all the costs associated with meeting a particular educational goal or requirement. When appropriate, the analyst adjusts the costs with a regional cost or price index. The advantage of resource cost analysis is that it identifies a complete set of elements to purchase, including those for special needs. The disadvantage for decision makers is that the total dollar cost of inputs alone has little connection to student performance. Some analysts, however, have used a variation of this approach to connect total dollars and student performance. The



way they have done this is to study programs known or thought to be effective or programs that focus specifically on high-performing schools/districts and measure the costs they incur for their educational programs. In this way, analysts adjust for adequate or acceptable performance of students within a program or activity they are evaluating. The decision maker can then use the cost information generated from such a study as a way to determine whether to fund certain activities or programs associated with high performance and as a standard for allocating resources to lower-performing entities.

Education research expert Richard Rothstein used a variation on the resource cost approach to examine allocation among education program areas in a representative sample of school districts from several states from 1967 to 1996. He found that instructional spending increases over time were concentrated in special programs and not in general education programs. In fact, during the five years between 1991 and 1996, special education spending grew by 6.7 percent to account for 19 percent of all school spending in 1996. Bilingual education programs grew 30 percent during the same period. The importance of these results relates to the estimated efficiency of expenditure increases. If expenditure increases for instruction occur in programs that affect students who are less likely to be tested (e.g., those in special education or bilingual education), then comparing the combined expenditures for all programs to outcomes of only one (the general program) provides a misleading picture. The appropriate comparison would be to study resource costs and student outcomes within only the general education program.

*Cost-effectiveness analysis.* Studies

# Tools for Examining Resource Allocation and Student Achievement

## **Educational Production Function**

Educational production functions are mathematical descriptions of how inputs (independent variables) contribute to outcomes (dependent variables). The production function most often is expressed in the form of a linear equation that relates student outcomes (test scores) to inputs and characteristics of schools (expenditures, teacher experience, class size), individual student characteristics (family income level, mother's education, race), and previous student performance.

## **Resource Cost Analysis**

Resource cost analysis uses average input prices that are aggregated and adjusted by a regional price or cost index. This method of aggregating and adjusting costs can result in a base funding (or foundation) level to guide decision makers in determining funding for programs and initiatives.

## **Cost-Effectiveness Analysis**

Cost-effectiveness analysis uses costs and likely outcomes of different educational interventions or alternatives to select the most efficient way to produce a desired goal or outcome. Generally, two or more interventions or alternatives for meeting a particular performance goal are studied in this approach.

## **Cost-Benefit Analysis**

Cost-benefit analysis uses the same approach as a cost-effectiveness analysis with the exception that both the costs and benefits are measured in dollar values.

that permit policymakers to understand both the costs and likely outcomes of different alternatives for student performance improvement are categorized as cost-effectiveness and cost-benefit analyses. To determine cost in a cost-effectiveness analysis, all needed program inputs, such as books, training for teachers, the cost of tutors or instructional aides, and needed space or facilities, are examined along with the estimated costs of contributed or volunteered resources. The effectiveness of alternative interventions can be determined by examining test score gains between the beginning and end of a school year. Score gains for students who participated in the alternative programs would be recorded along with the associated costs for each program. When all alternatives are evaluated according to how both their costs and their contributions meet the same outcome or goal, decision makers have the opportunity to select the alternatives that accomplish desired results using the fewest resources.

*Cost-benefit analysis.* Cost-benefit analysis employs an approach similar to that of cost-effectiveness analysis. The distinction is that cost-benefit analysis evaluates alternatives to meet a given goal by identifying both costs and benefits measured in monetary terms. The difficulty associated with placing a dollar value on outcomes from elementary and secondary education programs has discouraged the use of this technique, so analysts utilize it less often. As with cost-effectiveness analysis, in selecting among several alternatives, the decision maker would choose the approach or program with the highest benefit-to-cost ratio (Levin & McEwan, 2001).

The cost analysis portion of both the cost-effectiveness and cost-benefit approaches requires researchers to

identify all the costs of a program, including training, administrative costs, the contributions of volunteers, donations, and other program elements that are typically ignored when school districts decide to allocate resources to new programs. The benefits of going through this cost analysis process are valuable because they help education program managers and administrators understand the full cost of programs.

## Issues for State Policymakers

Policymakers will have various reasons for wanting to examine costs and better understand school spending patterns. They may want to appropriate additional revenue for education but only if that revenue will improve certain educational outcomes. Alternatively, a state may experience a revenue shortfall, and policymakers may need assistance in reallocating resources to maintain (or even improve) outcomes in an environment of fiscal constraints. Policymakers may need to respond to constituents who perceive inefficiency and waste in public education, in which case they will need to make resource allocation decisions that address constituent concerns without jeopardizing learning outcomes for students.

As discussed in the previous section, a number of tools are available to policymakers and policy analysts to better inform school finance decision-making. Knowledge gained through an examination of costs and spending will provide the basis for sound decisions. Policymakers also will benefit from an understanding of state and local needs and strengths and from a clear plan for improving student performance. Examples of some of the concerns policymakers will face when

considering school resource allocation include: educational costs, information reporting systems, incrementalism, general education program funding, change processes, and community participation.

*Educational costs.* Policymakers in many states expect students to meet higher standards, including taking more challenging courses and graduating from advanced programs of study. Each state should examine its school finance system to determine if the way resources are allocated to districts will permit schools and districts to achieve their goals. Policymakers should seek answers to questions like these:

- What does it cost for the average student to meet higher performance standards, and are these resources provided to all districts?
- What additional costs are associated with helping students with learning disabilities or students who do not speak English as a first language?
- What additional costs are incurred by small, rural school districts as they strive to meet performance standards, and does the finance system provide those additional funds?

Related issues for policymakers are the accurate identification of the cost differences among different regions and the use of this information to adjust resource allocation. A thorough understanding of educational costs will help policymakers decide how best to deploy state resources. Policymakers should be realistic about the potential for increased efficiency and productivity in systems that lack sufficient funding.

*Information reporting systems.* The quality of the state school finance reporting system is another issue that





will influence attempts to allocate resources more effectively. As policymakers and their staff members undertake resource allocation studies, they may find inadequacies in the financial reporting system that make it difficult to link student performance to allocated resources. For example, most state reporting systems identify revenue sources and expenditure functions at the school district level but do not provide a link between resources and classrooms or student performance. Ideally, information should track back to the classroom to allow analysts to associate performance with resources. Another inadequacy of some data systems is the lack of expenditure information for specific instructional programs (e.g., elementary reading, bilingual education, compensatory education). If the data are not of sufficient quality and detail to answer resource allocation policy questions, improvements in the data system are needed.

In cases where data elements are

accurate, current, and sufficiently specific, reports and illustrations of revenue streams, expenditure patterns, and student performance measures should convey information in formats that are useful and accessible to policymakers, parents, educators, and others involved in the decisionmaking process. In many states, policymakers and other stakeholders have access to raw data but lack information in a useable and easily understood format to explore program costs and student performance by program. Without good information, policymakers will have difficulty determining which initiatives to pursue, parents will not understand the way that funds are allocated, and educators will not have evidence of the efficiency of services and programs. Information gained as the result of research conducted within the state should be readily available to these audiences. Experimental studies of new programs and initiatives can offer guidance about program

Conflicting or inconclusive research findings on the connection between resources and student performance should not lead educators and policymakers to conclude that little can be done to make resource allocation more effective. Experts who study school finance believe that resource allocation decisions can be improved when desired outcomes are articulated and both the costs and benefits associated with reaching higher standards are understood and measured.

## Policymakers should be realistic about the potential for increased efficiency and productivity in systems that lack sufficient funding.

effectiveness as well as costs. That, in turn, can guide policy and practice.

*Incrementalism.* Undertaking significant, statewide reform is another challenge for policymakers seeking to improve resource allocation. It is difficult to muster support at the state and local levels for education reform that involves dramatic shifts in funding, services and programs, or administrative structures. Instead, many states provide incremental resource increases each year for all types of programs, activities, and functions without regard to their relative effectiveness in achieving state goals. Incrementalism can dilute the potential benefits of powerful strategies that require targeted infusions of resources. In addition, relying on steady, periodic increases in revenues causes educational systems to find security in long-standing formulas that calculate and distribute resources. Neither approach—across-the-board incremental increases nor the use of time-tested formulas—is likely to yield resources that will result in significant learning improvements for all students.

*General education program funding.* Rothstein recommends that policymakers examine the issue of allocating appropriate funding for the general education program. Policymakers may need to analyze whether across-the-board revenue increases are actually going to the general program that serves the most students or whether they are used primarily to fund special programs. Policymakers may want to discuss whether to encourage the flow of additional resources (and assignment of more students) to the general instructional program and away from special programs and add-on services. Because basic requirements for student performance, such as test performance standards, rest almost entirely within the general program, appropriate resource allocation for core instruction in general education settings should be a priority.

*Change processes.* Organizational change involving funding and services can be disruptive and unsettling. Without constituent input and support for proposed changes, policymakers risk dissatisfaction and even censure. Resource allocation policy changes can be especially alarming to constituents who find their jobs or their income levels changed by shifts in funding. For example, more than 80 percent of education resources go toward salaries, wages, and benefits for people who work in school districts; some new approaches to resource allocation may likely threaten some district employment and job assignments. Policymakers should seek ways to include the perspectives and input of all stakeholders to ease the challenges associated with change.

*Community participation.* Parents and other members of the public approach education issues from the perspective of personal goals and expectations rather than statewide

performance results. Their support also is critical to successful policymaking and the implementation of new fiscal structures. Parents and the public-at-large need clear information to understand current education resource needs and challenges. In turn, they can be a source of information to policymakers on the needs of individual students and local schools. Recently, states have begun to provide accountability reports and school report cards to help stakeholders understand student performance. States also should develop information vehicles that will help convey a deeper understanding of resource allocation and of any policy changes that might affect their children's education. The public needs opportunities to become involved in exploring the options that may improve the system for all students, and open communication will increase their effectiveness in that endeavor.

## In Closing

Evidence suggests that education spending in U.S. districts and schools does not change easily. Decisions regarding allocation traditionally have focused on available resources rather than outputs such as student achievement. Analysis tools are available to help policymakers target spending more effectively to support student success. Developing effective resource allocation policy and practice that support increasing standards for student achievement presents challenges for policymakers, educators, and researchers.

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## Additional Information Resources

Education finance statistics compiled by the U.S. Department of Education are posted at [nces.ed.gov/edfin](http://nces.ed.gov/edfin).

The Digest of Education Statistics contains information about revenues and expenditures at every level of education and is online at [nces.ed.gov/pubs2001/digest](http://nces.ed.gov/pubs2001/digest).

The Consortium for Policy Research in Education posts findings from research on school finance and education reform at [www.gse.upenn.edu/cpre/Research/Research.htm](http://www.gse.upenn.edu/cpre/Research/Research.htm).

Information on evolving state policies in school finance is available online from the National Center on Education Finance at [www.ncsl.org/programs/educ/NCEF.htm](http://www.ncsl.org/programs/educ/NCEF.htm).

The Education Commission of the States frequently studies issues in education finance for state policymakers and posts information on its Web site at [www.ecs.org/ecsmain.asp?page=/html/issues.asp?am=1](http://www.ecs.org/ecsmain.asp?page=/html/issues.asp?am=1).

The National Institute on Educational Governance, Finance, Policymaking, and Management Web site announces new research on school finance and post links to finance data at <http://www.ed.gov/offices/OERI/GFI>.

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# INSIGHTS AT A GLANCE

This year, America's public school districts will spend more than \$310 billion to educate the nation's children. Policymakers, educators, researchers, and the general public want to know how these resources can be allocated effectively and efficiently to guarantee the success of all students. However, the extent to which education resources affect student performance is not well understood. The goal of this edition of *Insights on Education Policy, Practice, and Research* is to introduce state policymakers to information about current practice and research on education resource allocation and to heighten awareness of the issues and concerns regarding this topic.

## **Resource allocation patterns have been stable for decades.**

- Fund allocations for instruction consistently constitute about 60 percent of available resources. Within the category of instruction, the percentage of resources allocated to staff salaries also has been uniform.
- Researchers have found that school districts receiving revenue increases allocate their new funds in the same broad spending categories as before the increase.

## **Researchers ask "Does money make a difference?" to explore the link between resources and student performance.**

- Methods designed to explain and quantify an educational production function have been used for decades, but results from such studies have not provided consistent and strong findings policymakers can use.
- New thinking suggests that resource effectiveness depends on how resources are used in instruction. What matters is what students and teachers actually do with resources, not merely whether they are present.
- Resource allocation decisions can be improved when outcomes are articulated and both the costs and benefits associated with reaching higher standards are understood and measured.

## **Policymakers should consider the supports and challenges they may encounter in pursuing improvements to education spending.**

- A thorough understanding of *educational costs* will help policymakers decide how to best deploy resources.
- The quality of *information reporting systems* will affect the ability of policymakers and other education stakeholders to see the link between resources and student performance.
- Oftentimes, states find themselves in a pattern of providing incremental resource increases for all programs without regard to their relative effectiveness in achieving state goals. *Incrementalism* can dilute the potential benefits of powerful strategies that require targeted infusions of resources.
- Policymakers may need to analyze whether across-the-board revenue increases are actually *funding the general education program* that serves the majority of students or whether they are used primarily to fund special programs.
- *Organizational change processes* that involve funding and services can be disruptive and unsettling to constituents and educators. Policymakers can seek ways to include the perspectives and input of all stakeholders to ease the challenges associated with change.
- Policymakers should consider the benefits of *community participation* in allocation decisions and develop mechanisms to open lines of communication with the public-at-large to align goals, expectations, and solutions.

Evidence suggests that education spending in U.S. districts and schools does not change easily. Decisions regarding allocation traditionally have focused on available resources rather than outputs such as student achievement. Analysis tools are available to help policymakers target spending more effectively to support student success. Developing effective resource allocation policy and practice that support increasing standards for student achievement presents challenges for policymakers, educators, and researchers.