



The Campaign for Fiscal Equity, Inc.

OF COURSE MONEY MATTERS:

WHY THE ARGUMENTS TO THE CONTRARY
NEVER ADDED UP

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CFE is a coalition of 14 parent/advocacy groups that seeks to reform New York State's school finance system to ensure adequate resources and the opportunity for a sound basic education for all students in New York. Founded in 1993, CFE has (1) litigated *CFE v. State*, (2) promoted an extensive statewide campaign of community organizing and public engagement on education reform and finance issues, (3) conducted in-depth policy research, and (4) established a national network of attorneys, advocates, and policy-makers committed to reform in education and education funding.

In a major triumph for CFE and the students it represents, the Court of Appeals, New York's highest court, held last June that (1) the state funding system must be reformed to ensure that every school in New York City has sufficient resources to provide its students with the opportunity for a meaningful high school education, and (2) a new accountability system must be put into place to ensure that all students do in fact receive the opportunity for a meaningful high school education. The Court ordered the State to reform the current state funding system by July 30, 2004.

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EXECUTIVE SUMMARY

Does money matter in improving the nation's most disadvantaged schools? Since the 1960s, when an influential federal report first raised the issue of whether money made a difference in improving public schools for poor and minority students, substantial academic research and judicial analysis has overwhelmingly debunked the methodology of the nay-sayers. The resultant studies and court holdings have strongly concluded that money spent on qualified teachers, smaller class sizes, preschool initiatives, and academic intervention programs does make a substantial difference in student achievement—especially for poor and minority students.

The public policy debate has now begun to shift to the more pressing question: how can money be effectively spent to ensure maximum results and provide meaningful opportunities for all American students? Studies have repeatedly shown that money targeted for proven instructional strategies, such as class-size reduction programs and preschool initiatives, yield dramatic results in student achievement. Although such resource-intensive practices cost more than standard instructional practices, the long-term savings to school systems and to society at large greatly eclipse the upfront costs of providing the programs. To implement these necessary reforms, however, states and school districts require sufficient funding and meaningful accountability devices that ensure the funds are appropriately spent. Sophisticated costing-out analyses that determine the actual cost of providing an adequate education and the creation of new accountability approaches have fostered promising developments in these areas.

It is clear that the academic debate over whether money matters has run its course. The empirical evidence overwhelmingly shows that it does. Federal law and the constitutions of New York and other states guarantee all students the opportunity to meet the rigorous academic standards that will prepare them to be successful citizens and economic competitors in the twenty-first century. The key questions before us now are precisely how much money is needed and how should the funds be effectively spent to actually provide meaningful opportunities for all students.

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INTRODUCTION

One of the great school funding myths of our time is the notion that money spent on improving public schools for poor and minority students is akin to throwing money into a bottomless pit. “Dollar bills don’t educate students,” said President George H.W. Bush in 1991;¹ “Just as more money has not provided a remedy in the past, it will not miraculously do so in the future,”² wrote the editors of *The Wall Street Journal* nearly a decade later.

According to the politicians and policymakers who have pushed this view into the public debate on education reform, our schools have ample resources. The reason that large numbers of students are not achieving at satisfactory levels in the inner cities, in many rural areas, and in pockets of underachievement in the suburbs, they argue, is either due to insufficiently motivated students or teachers, or to the poor socioeconomic conditions in which many of these children are raised—conditions that prevent them from learning at high levels. Spending more money on educating poor kids, they contend, is a waste of funds.

Simply stated, this position is nonsense. We challenge our readers to find any parent, teacher, or school administrator in any poor community in the United States—or, for that matter, in any affluent community—who genuinely believes that money does not matter in education. As a state court judge in rural North Carolina bluntly put it, “Only a fool would find that money does not matter in education.”³ Today, the nation’s most privileged parents send their children to private schools with annual tuitions that often exceed \$20,000. In New York, per-pupil expenditures in some of the suburban public schools of Nassau and Westchester counties—where nearly every student graduates and goes to college—are also in the \$20,000 per year range.⁴

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The New York City schools, which border and compete with these suburban schools, spend about half of that amount, and consistently have distressingly high dropout rates. Similar disparities exist across the nation. The wealthy know that money matters in providing opportunities for their children, and the nation's poor know quite well that the lack of resources that only money can buy has denied them access to these same opportunities.

In recent years, some major success stories and a growing body of research have substantiated the common sense understanding that money certainly does matter. The public policy debate has begun to shift to the more relevant and significant question: how can money best be used to ensure maximum results? Of course money matters, but it matters most when it is spent well and the current challenge for educators and policymakers is to identify the best ways to use resources to increase student achievement.

One example of how money used well yields dramatic improvements in academic achievement of poor and minority students is a remedial program called Reading Recovery. This program, which has been used successfully in schools in nearly every state, focuses on early elementary school students in the lowest 20 percent of their class, who are given intensive, one-on-one reading instruction for a period of 12 to 20 weeks with a teacher who has received rigorous professional preparation. A large majority of students who complete this program are reading at or above grade level in less than one school year.

Evidence from the Tennessee class size study—a large-scale, controlled experiment that was conducted from 1985-1989 to assess the impact of class size reduction on student achievement—has shown that students placed in smaller classes reach higher levels of sustained achievement. Follow-up studies have consistently confirmed these results. Compared to their peers placed in larger classes, the initial group of students in the Tennessee experiment, who are now adults, per-

formed better on standardized tests throughout their years in school and had higher graduation and college attendance rates. The increases in achievement were especially significant for minority students.

Efforts to provide meaningful, preschool programs have produced similar outcomes. Across the country, millions of low-income children have benefited from such state and local initiatives, providing them a strong foundation for success in school while yielding lifelong benefits that range from long-term academic success to better access to employment opportunities.

Each of these initiatives does indeed cost more than standard instructional practices. The remarkable success of these and other resource-intensive practices, however, demonstrate clearly that money targeted for proven instructional strategies is money well spent. Moreover, in the long-term, the ultimate savings to school systems (in terms of reduced special education costs, for example) and to society (through higher numbers of productive, well-educated citizens in the work force) will greatly eclipse the up-front costs of providing these programs.

In this paper, we will explore the history and current status of the “money matters” debate and its impact on school finance reform efforts across the country. Since the 1960s, when an influential federal report first raised the issue of whether money made a difference in improving the nation’s most disadvantaged schools, substantial academic research and judicial analysis has addressed this question. Overwhelmingly, the academic literature and the court holdings have debunked the methodology of the nay-sayers and strongly concluded that money spent on qualified teachers, smaller class sizes, preschool initiatives, and academic intervention programs does make a substantial difference in student achievement—especially for poor and minority students. We will explore these practices, their costs, and the research proving their benefits. Finally, we will focus on core issues for contemporary education reform—which unfortunately have been

obscured by the money matters debate—namely, how much money is needed to provide all students a meaningful educational opportunity and what accountability practices can best ensure that these funds are effectively used to promote the ultimate goal of achieving significant, demonstrable improvements in student learning.

THE MONEY MATTERS DEBATE: THE EMERGENCE OF A FALSE ISSUE AS A MAJOR PUBLIC POLICY CONCERN

Since every student, parent, teacher, and policymaker knows on a deep common sense basis that money affects the level and quality of educational opportunities provided to children, the first question that needs to be posed is: how did the issue of whether “money matters” even enter into serious public policy debate? The answer is that a single research report issued by James S. Coleman, a respected sociologist in the 1960s (whose report is now largely debunked by the research community) had such a startling impact that it has taken four decades of research and analysis for scholars to reach a virtual consensus that reestablishes the common sense status quo ante that money obviously does matter.

In 1966, following passage of the landmark Civil Rights Act of 1964, Congress established a commission to study the educational opportunities available to minority children. Not surprisingly, the ensuing study, which was based on questionnaires from thousands of schools across the country, found that the average black student attended a school where the teachers were less qualified, the classes were larger, libraries and textbooks were less adequate, and access to science laboratories were more limited than for the average white student.⁵ However, the authors of the study, led by Coleman, also concluded that the largest determinants of student achievement are the “educational backgrounds and aspirations of

other students in the school.”⁶ They went so far as to say that “[S]chools bring little influence to bear on a child’s achievement that is independent of his background and general social context.”⁷

The report, which quickly became known as the Coleman Report, cast a severe pall over the notion that money spent on education could raise children out of poverty:

The Coleman Report was lengthy, its procedures and statistics were complex, and its text was murky and, as a result, almost nobody actually read it. It was released, however...by well-known scholars, and its surprising conclusion about the ineffectiveness of school factors was widely trumpeted in the press. Thus, the public was led to believe that research had “proven” that schools and their funding had but little effect.... Somehow, at the time, almost nobody noticed that major errors had appeared in the Report —errors likely to have reduced the size of its estimates for school effects on students’ achievements.⁸

In the years since the release of the Coleman Report, a vast literature has pinpointed significant methodological flaws in its analysis. Extensive empirical investigations, more advanced regression analyses, and other techniques have substantially refuted the report’s overstated conclusions.⁹ At the time, however, Coleman’s reputation and the study’s broad scope resulted in frequent citation, and discussion of the report’s findings repeatedly occurred in political, legal, and educational arenas. From these discussions, a popular perception emerged that increased funding for public schools would make little difference in the education of poor and minority children.

The Coleman Report’s unfortunate and incorrect conclusion that money doesn’t matter imposed a major hurdle that other researchers, school finance reformers,

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and the courts have been forced to surmount over the past four decades. The roadblocks to reform were raised even higher a few years later when the United States Supreme Court jumped into the fray. In 1973, in its decision in *San Antonio Independent School District v. Rodriguez*, the U.S. Supreme Court noted the major debate between scholars and education experts over “the extent to which there is a demonstrable correlation between educational expenditures and the quality of education.”¹⁰ Although the high court did not itself take a position on this controversial issue, the fact that it even raised the question—and that it did so in the context of a major decision which rejected a constitutional challenge to a state education finance system—gave the money doesn’t matter myth even greater notoriety.

The Supreme Court’s ruling in *Rodriguez* closed the door of the federal court houses to lawyers and advocates who sought to challenge inequities in state education finance systems, but to the surprise of many observers at the time, the state courts soon became a hospitable venue for

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legal reform of inequitable education finance systems. In the three decades since the *Rodriguez* decision, major legal challenges to state funding systems have been mounted in 45 of the 50 states; plaintiffs have prevailed in a majority of them, and at an increasing rate in recent years.¹¹ These cases became a testing ground for a body of scholarly research that emerged in the wake of the Coleman Report. Overall, the strong conclusion that emerges from the generation of studies that have been done since the Coleman Report—and the intensive scrutiny they have received from the courts—is that although socioeconomic disadvantages have strong detrimental impacts on the achievement of many minority students, the

educational opportunities that money can buy can substantially compensate for these disadvantages. Accordingly, resource factors do positively affect student achievement.

THE CRITICAL BASIC RESOURCES

Qualified Teachers

Virtually all educators, parents, and public policymakers believe that the most important determinant of a child's educational opportunity is the caliber and commitment of his or her teacher. The 1999 National Education Summit, a meeting convened by the president and attended by the governors of most states and leading corporate CEOs, identified highly qualified teachers as "the most critical single resource affecting student outcomes,"¹² a conclusion backed by both the U.S. Department of Education¹³ and the numerous state courts considering the core elements of an "adequate education" under their state constitutions.¹⁴

The academic research has also confirmed that teacher quality correlates strongly with student achievement.¹⁵ Teacher quality, while clearly a combination of many tangible and intangible factors, can, to a significant degree, be assessed objectively. To measure the quality of a teaching force, social scientists consider teachers' certification statuses, performances on certification exams, years of experience, the subject matter of the undergraduate and graduate degrees obtained, and whether their college majors correspond to the subjects they are currently teaching.

The most fundamental measure of a teacher's qualification is his or her basic literacy and general and subject matter knowledge—precisely the skills that are assessed by state teacher certification examinations. Ronald Ferguson of the John F. Kennedy School of Government at Harvard University has extensively

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researched the extent to which there is a direct link between teachers' educational backgrounds, their performance on certification examinations, and their students' performance on standardized tests. He found that "teachers who have attended better colleges or scored higher on standardized examinations are more successful at helping their students to score higher."¹⁶

Ferguson's most extensive study utilized a massive data set involving two million children and 200,000 teachers in 90 percent of Texas's 1,000 school districts during the 1980s. He compared student achievement in schools with similar student demographics but with significant variations in the level of teacher qualification as measured by TECAT, a literacy skills test administered to every public school teacher in Texas. With this data, Ferguson examined test score results in four types of districts, comparing students with similar socioeconomic status whose teachers had differing levels of qualifications. Specifically, his data set included (1) students with high math test scores in the early grades who had teachers with high average scores on TECAT; (2) students with low math scores in the early grades who had teachers with high TECAT Scores; (3) students with high scores in the early grades who had low-scoring teachers; and (4) students with low scores in the early grades who had high-scoring teachers.

By high school, students in districts with the high-scoring teachers scored remarkably higher—1.7 standard deviations—than their peers with low-scoring, less-qualified teachers. Regardless of the initial scores of students in the lower grades, students' long-term achievement was linked with a high degree of statistical significance to the quality of teachers to which they were exposed, as measured by certification test scores.¹⁷ Ferguson's results are consistent with similar findings from studies of teacher effectiveness in Tennessee,¹⁸ Dallas, and Boston.¹⁹ Even Eric Hanushek, the leading academic proponent of the view that money doesn't matter, acknowledged based on his own recent research that "having a high quality teacher throughout elementary school can substantially offset or even eliminate

the disadvantage of low socio-economic background.”²⁰

Classroom experience, at least during the first several years of teaching, is also highly correlated with teacher quality. Teachers with fewer than two or three years of experience have been found to be substantially less effective than their more experienced colleagues. Stanford University professor Linda Darling-Hammond, vice-chair and former executive director of the National Commission on Teaching and America’s Future, has found that “teachers do become more effective during their initial years of experience” and that “teachers with less than three years of experience tend to be less effective than teachers who have somewhere in the range of three to five years experience.”²¹

The National Commission’s recent reports have concluded that too few well-qualified teachers remain in the profession past those first few years. Since the early 1990s, the number of individuals leaving the teaching profession has been greater than those entering, and the gap is growing, a phenomenon that cannot be solely explained by normal attrition patterns and retirement.²² Teachers are fleeing, especially from our poorest schools, for higher-paying, more satisfying assignments in wealthy districts, and for careers outside the profession altogether that offer higher levels of prestige and compensation. One-third of all new teachers leave teaching during their first three years, with one-half departing before their fifth year of teaching.²³ The evidence indicates that the ones who leave tend to be the brightest and most effective of the young teachers.²⁴

There is a widespread, yet incorrect, belief that there is a national shortage of well-qualified teachers. According to the National Commission, the reality is that, for the most part, there is no lack of well-prepared, certified teachers entering the profession each year. The real problem—which is troublingly pervasive throughout the country, but especially in areas serving disadvantaged children—is that too many good teachers leave the profession within their first few years. Unable to

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retain the good teachers they hire, schools, districts, and states have resorted to policies that allow unqualified teachers into the classrooms, exacerbating the educational inadequacies in their schools. In 1999, 14 percent of all teachers in New York City were uncertified, and 31 percent of all recently hired teachers and over 40 percent in math and science performed poorly on teacher certification examinations.²⁵ In California, over 37,000 teachers (12 percent) lacked full certification in 2001-2002, and 18 percent of teachers in the state's high-poverty districts lacked certification.²⁶ In general, poor and minority students are more likely to be taught by these unlicensed teachers.²⁷

Several studies have also found that at-risk children are more likely to be taught by out-of-field teachers—in other words, teachers who do not possess certification in the subject areas in which they teach. A 2002 Education Trust analysis of federal teaching statistics concluded that in secondary schools, 34 percent of classes in high-poverty schools and 29 percent in high-minority schools are taught by out-of-field teachers, compared to 19 percent in low-poverty schools and 21 percent in low-minority schools.²⁸ The problem is much worse in middle schools, where over half of classes in high-poverty schools are taught by teachers who lack at least a college minor in the subject area that they teach.²⁹

According to the National Commission, policymakers and school districts too rarely address the root causes of teacher flight: low pay, systemic lack of respect or professionalism, and working conditions that none but the most heroic (or desperate) individuals could endure. Focusing resources on improving the climate for teaching by providing ongoing professional development and leadership opportunities, improving school facilities, lowering class sizes, and respecting the professionalism of teachers by paying them adequately, would, the National Commission argues, go a long way in addressing the high turnover rates that plague underfunded schools.³⁰

Small Class Sizes

Small class sizes, which allow for more personalized instruction, are directly correlated with improved student achievement—especially for poor and minority students. Meta-analysis studies in the 1970s and 1980s found that children benefited academically from small class sizes at all levels, especially with prolonged exposure to small class environments, and that the most pronounced benefits were found in class sizes smaller than 20 students.³¹ These general conclusions were confirmed by the landmark Tennessee STAR study (1985-1989), whose results continue to be extensively analyzed today.

During the course of the four-year study, the state of Tennessee placed 6,500 students in different size classes in 80 schools and 330 K-3 classrooms, tracking their educational progress over time. Due to the study's highly effective "within-school design," its carefully monitored random assignments to experimental and control classrooms, and "its magnitude and the follow-up research conducted after the 4-year [experimental] period,"³² STAR has been called "one of the most important educational investigations ever carried out."³³

Analyses of STAR by Jeremy Finn of the State University of New York at Buffalo and Princeton University economists Alan Krueger and Diane Whitmore, among others, have concluded that students in the smaller classes had statistically significant differences in achievement—differences that endured over many years. These gains were especially large for minority students. Concluding that several years' exposure to small classes yielded pronounced long-term benefits for students, Finn and his colleagues have written that participation for three or four years showed lasting benefits that are statistically significant and educationally meaningful. Improvements in test scores remained significant through grade 8—fully five years after the small classes were disbanded. Few educational interventions have demonstrated this degree of longevity.³⁴

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Adding that the strongest effects were shown for students who were exposed to small classes early, Finn, et al. concluded that the “immediate benefits of small classes were clear and consistent,”³⁵ and that “entering a small class in kindergarten or grade 1 and remaining in that setting for at least 3 years produces...significant and noteworthy improvements in academic achievement at least through grade 8 in all school subjects.”³⁶ Perhaps the most impressive finding was that STAR students who spent four years in the small classes were “nearly a whole school year ahead of their counterparts who had attended larger classes in K-3.”³⁷

Further analysis of STAR data by Krueger and Whitmore found especially pronounced educational benefits of small class sizes on African American children. While the academic achievement rose for all students who were in the smaller classes, Krueger and Whitmore found that standardized test score increases for black children, which averaged 7 to 10 percentile points, were double the gains of the white children in those same classes.³⁸ Because of this pronounced effect on the achievement of black students, their analysis concluded that the national implications of effectively reducing class sizes would be extraordinary. They estimated that “assigning *all* students to a class of 15 students as opposed to 22 students for a couple of years in grammar school would lower the black-white [standardized test score] gap by about 38 percent.”³⁹

The reason that small classes matter more for African American students, hypothesized Krueger and Whitmore, is that they are more likely to attend schools with a range of educational deficiencies. These schools are comprised of greater numbers of weak students, forcing teachers to “move very slowly through the curriculum.”⁴⁰ In contrast, with fewer students, teachers can “effectively teach more material,” an issue not faced in schools with less pervasive educational deficiencies (i.e., predominantly white or low-poverty schools) where teachers “can move quickly through the material regardless of class size.” White students attending predominantly black schools, they found, enjoyed the same large benefits.⁴¹

Other recent studies of small class sizes confirm the Tennessee STAR results. In the mid-1990s, a school district in Burke County, North Carolina reduced the sizes of many of its first-, second-, and third-grade classes to less than 15 students. Students in the smaller classes achieved higher test scores in reading and math than their peers in traditionally sized classes. Furthermore, the district found statistically significant increases in the amount of time devoted to academic instruction each day and corresponding decreases in time spent on discipline.⁴²

Early evidence from Wisconsin's Student Achievement Guarantee in Education (SAGE) experiment, a five-year, state-funded longitudinal study that began in 1996, mirrors the conclusions of the longer-term STAR experiment in Tennessee. In participating schools, classes were reduced to less than 15 students, with several other comparison approaches, including more than one adult in regularly sized classes to reduce the student-teacher ratio. Initial reports issued in the late 1990s⁴³—together with further data several years later—showed improved performance in reading, language arts, and mathematics for participating students in the small classes. In participating schools, the black-white achievement gap was reduced considerably, while it grew in non-participating schools.⁴⁴

The manner in which a class size reduction program is implemented is important. California's statewide class size reduction initiative program, initiated in 1996, was implemented before a sufficient number of qualified teachers and adequate classroom space were in place. "In Los Angeles, new teachers have included Nordstrom clerks, a former clown, and several chiropractors," wrote *U.S. News and World Report* in a 1997 account of California's class size reduction initiative, adding that "the quality of many new hires is suspect."⁴⁵ Rapid class size reduction was inspired by a new state law, which provided every school that participated \$650 per pupil to reduce classes to 20 students or less. The problems were many: "the program was far from fully funded for many of California's districts" so that wealthy districts that had small classes already "got an initial boon" while

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the neediest districts suffered. California, already facing a budget crunch, took this poorly targeted class size funding away from other education programs. Even worse, little attention was paid or resources devoted to ensuring the system's structural capacity for small classes:

The overnight need for approximately 18,000 new classrooms in a facility-challenged state led to expedient, but compromised solutions—conversion of libraries, labs, and assembly stages into classrooms; switches to year-round calendars—some of which remain problematic. The hiring of many new teachers taxed schools' capacity to support and mentor teachers...Particularly troubling was the proliferation of emergency-permit teachers in high poverty areas.⁴⁶

Initial results of the California initiative indicate that the reduction in class sizes had a positive effect on student achievement, but that this effect was largely negated by the negative impact caused by new, inexperienced teachers.⁴⁷ While some commentators have cited the California experience as evidence that small classes don't work, the correct conclusion is that class size reduction works, but it works best when implemented wisely, and especially when the many interrelated programs and practices are funded adequately as well.

PROGRAMS THAT WORK

Preschool Education

In recent years, some of the most stunning statistics on the effectiveness of academic interventions for at-risk students have focused on the benefits of well-run preschool education programs. The body of research linking educationally sound early childhood programs with higher cognitive skills and long-term gains in stu-

dent achievement throughout students' years in school is so convincing that preschool education, which historically was a private option for wealthy families, has come to be considered a necessary component of effective public education for all students. Increasingly, court orders in education adequacy litigations, as well as many state "universal" pre-kindergarten education reform initiatives, include some amount of preschool education as an inherent component of the opportunity for an adequate education.

One example of the strong research findings on the benefits of pre-kindergarten education is a 2001 study published in the *Journal of the American Medical Association*. This study longitudinally tracked a predominantly African American group of 1,539 Chicago children who participated in the city's Child Parent Centers, and looked at high school completion rates, juvenile criminal arrests, grade retention rates, and special education placement for 15 years after the children completed the program. On all of these measures it found that participation in the program was linked to significantly better outcomes: participating children had lower dropout rates, more years of completed education, and were less likely to be involved in crime than children who did not. In sum, the study's authors concluded, "Participation in an established early childhood intervention for low-income children was associated with better educational and social outcomes up to age 20. These findings are among the strongest evidence that established programs administered through public schools can promote children's long-term success."⁴⁸

W. Steven Barnett of the National Institute for Early Education Research at Rutgers University has synthesized the research findings of the numerous small- and large-scale studies conducted across the country in recent decades, and has come to two firm conclusions. First, early childhood education works well for at-risk children. Second, more systemic funding of intensive, high-quality pre-kindergarten programs for very young children will pay for itself many times over in financial and societal benefits—from savings on educational interventions to a

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more productive work force and lower crime rates.

The most significant results reported by Barnett emerged from large-scale, controlled studies that allowed researchers to examine long-term achievement and social trends with a high degree of statistical reliability. The best known of these initiatives are the Abecedarian study in North Carolina, the Perry Preschool Program, and the Chicago Public Schools' Child Parent Centers program. After analyzing these studies, Barnett concluded that:

Five of eleven model-program studies with achievement test data found statistically significant positive effects beyond grade three. Evidence of effects was strongest in the studies that randomized assignment to program and control groups. The Abecedarian and Perry Preschool studies found achievement effects persisting to ages fourteen and fifteen.⁴⁹

Measuring “school success” in terms of grade retention rates, special education placements, and high school completion rates, Barnett concluded that “[T]he findings were relatively uniform and constitute overwhelming evidence that [early childhood education] can produce sizeable improvements in school success.”⁵⁰

Cost-benefit analyses of the Perry Preschool Program found that for every dollar spent on high-quality preschool education, the public saved \$7.16 in long-term expenditures in educational interventions, welfare, and other social services.⁵¹

Barnett summarized the cost-effectiveness of early childhood education as follows:

The way that educational costs are conventionally calculated, the foregoing recommendations will be seen as expensive. However, they are not as expensive as the costs of failing to implement them: poor achievement, high rates of school failure and special education, low productivity, and high crime and delinquency. Also, because disadvantaged children are highly concentrated geographically, these costs contribute to problems of segregation, urban decay, and suburban sprawl that add to the costs of

current policy. From this perspective, it is difficult to see how society can afford not to implement high-quality pre-kindergarten education for disadvantaged children.⁵²

Research evidence regarding Head Start and other day care programs (which, unlike most of the programs studied by Barnett, generally do not have an intensive level of services) are less conclusive. The best evidence thus far indicates that students who attend Head Start obtain statistically significant achievement score increases at age five, and that these advantages persist for white students, but, for

reasons that remain unclear, tend to decay rapidly for African American students.⁵³

These differences indicate that there may be a quality threshold in regard to preschool programs, and that to have a significant, lasting impact, early childhood education programs must go beyond the traditional conceptions of day-care and ensure small class sizes, adequately paid state-certified teachers, and full-day and year-long programs.⁵⁴

Courts in recent education adequacy cases have begun to analyze the research data on early childhood programs and to order states to make quality preschool programs available to all at-risk children.

Courts in recent education adequacy cases have begun to analyze the research data on early childhood programs and to order states to make quality preschool programs available to all at-risk children. Specifically, the New Jersey Supreme Court concluded in 1998 that “Intensive preschool and full-day kindergarten enrichment programs are necessary to reverse the educational disadvantages these children start out with” and that “well-planned, high quality” early childhood education programs “will have a significant and substantial positive impact on academic achievement in both early and later school years.”⁵⁵ Similarly, in North Carolina in 2002, a trial court, after hearing testimony and reviewing the evidence regarding the value of

quality preschool programs, ruled that “Pre-kindergarten educational programs for at-risk children must be expanded to serve all of the at-risk children in North Carolina that qualify for such programs.”⁵⁶

Intensive Literacy Programs

Early intervention literacy programs that target at-risk students in their first years of school have been remarkably effective in communities all around the country—especially when undertaken with qualified teachers and small class sizes. Reading Recovery, an early literacy remediation program, currently used in many states, provides a dramatic case in point.⁵⁷ We cite Reading Recovery for several reasons. First, the weight of the reported research evidence on its success is extraordinary. Second, the program’s record played a large role in our own efforts in *Campaign for Fiscal Equity v. State of New York* to successfully convince the New York State courts that New York City public school children can learn at high levels if their schools are funded at constitutionally adequate levels.

Moreover, after the CFE trial, in the course of asking hundreds of New York parents, teachers, school administrators, and community members across the state in our large-scale public engagement initiative what programs in their opinions really work, we were impressed by the consistent reference to this program as one that really results in dramatic improvements in student literacy, especially for the lowest achieving students.⁵⁸

Reading Recovery focuses on children in the early elementary grades, who are given one-on-one and small group reading instruction from experienced, highly trained reading teachers. Developed in the mid-1970s by Dr. Marie Clay of New Zealand as a government-sponsored program in that nation, Reading Recovery was first implemented in the United States in the mid-1980s. In the United States, the program has developed as a research-based collaboration between schools

and universities, which provide training and ongoing professional development to teachers as well as extensive data collection and research analysis.⁵⁹ According to the Reading Recovery Research Council of North America, as of 2001 more than one million children had participated in the Reading Recovery program in the United States.⁶⁰

In participating school districts, Reading Recovery students are selected from the lowest performing 20 percent of first-graders. Once in the program, students receive daily one-on-one tutoring in 30-minute sessions from specially trained teachers. Students remain in the program until they develop self-sustaining capacities for reading and writing, or until they reach the end of the 20-week program. Students who successfully complete the program are described as having been “successfully discontinued,” in other words, they have made “accelerated gains” in reading ability, which meet or exceed average first-grade literacy skills and enable them to continue to achieve well in the future. Other students are described as “recommended,” or in need of further assessment after the full course of the program, in many instances because of a genuine learning disability or need for special education services.⁶¹

Of the nearly three-quarters of these students who completed the full program of 12 to 20 weeks of daily instruction, some 729,000 first-graders—over 80 percent—had caught up with their peers in literacy skills, attaining grade-level proficiency by the end of the program.⁶² The success rates of Reading Recovery in New York mirror those enjoyed by students in the program across the country. According to studies completed by researchers at New York University between 1989 and 1996, 83 percent of all New York students who received the full Reading Recovery program of 60 or more lessons were “successfully discontinued.”⁶³ Remarkably, this number represented nearly two-thirds of all students who had received *any* Reading Recovery lessons at all.⁶⁴ By comparison, only one-third of similar students who did not receive Reading Recovery lessons were able to

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achieve at comparable levels.⁶⁵

Most criticism of Reading Recovery focuses on its cost—about \$2,500 per child for an intensive 20-week program. A cost-benefit study conducted in Fall River, Massachusetts in 1996 concluded that most Reading Recovery students, in the absence of that program, would have been referred to expensive special education and Title I programs; it projected the district’s five-year costs for the Reading Recovery program at \$483,000, compared with a five-year cost of \$1.7 million for these alternative programs.⁶⁶ A more extensive study of 2,300 students who completed Reading Recovery in New York City with a comparison group, found a five percent reduction in special education referrals and a three percent decrease in the referral rate associated with the Reading Recovery program.⁶⁷

“More Time on Task”

While effective early literacy programs such as Reading Recovery can start at-risk children off on the right track, even the best of these programs cannot fully compensate for the many socioeconomic disadvantages that these children bring to classrooms throughout their school careers—and may continue to face in the years that follow. Continued academic supports are needed for most of these children, at least through their early school years, either through extended learning opportunities like those provided by after-school educational programs, continued learning opportunities during the summer months, or through more extensive comprehensive school reform programs geared to the needs of underachieving students.

One of the reasons extra “time on task” makes a difference in many children’s lives was convincingly summarized by Thomas Sobol, former commissioner of education of the state of New York:

If...children...are now living in a situation where when the school closes its door[s] at three o’clock, they’re on the streets in an unwholesome environ-

ment and up at all hours and uncared for, unsupervised by competent adults, the school can open its doors longer and not turn kids out into the streets and the drug culture...There is a lot [that] schools could do...because...unless you deal effectively with these problems that impede learning, you're not going to get the learning that you desire.⁶⁸

Extended day programs, as distinguished from school-age child care programs, are educational programs that seek to decrease gaps in students' academic performances. Evaluation of extended day programs has been limited, but preliminary analysis indicates that younger children (ages 5 to 9), especially those in low-income neighborhoods, gain the most from these programs, showing improved behavior, work habits, and academic performance. Similarly, young teens who participate in after-school activities tend to achieve higher grades.⁶⁹

A report issued in 2001 on the effect of New York City's Extended Time Schools Under Registration Review (SURR) on student achievement—schools mandated for improvement due to extremely low percentages of students meeting state standards—showed that more time in the classroom can produce improved outcomes. The Extended Time schools, which not only provide an additional forty minutes of daily classroom instruction but have qualified teachers who receive a 15 percent increase in their base salary, have shown a greater reduction in the numbers of students scoring in the lowest proficiency level—and higher rates of improvement on city and state reading and mathematics assessments than students in Non-Extended Time SURR schools.⁷⁰

Two academic intervention initiatives—operated by the Institute for Student Achievement and conducted in 11 school districts in four states—have shown dramatic success in raising the achievement levels of the most poorly performing students by providing extensive “time on task” opportunities. Both the COMET program for middle schools and the STAR program for high schools combine

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small learning communities, individualized academic intervention plans, and personal and college/career counseling to provide academic and social interventions before, during, and after school.⁷¹ Over 95 percent of the at-risk students who participated in STAR reportedly graduated from high school, and 85 percent were accepted to college.⁷²

The national standards-based reform movement has led to a substantial increase in summer school attendance, especially in urban districts which are requiring students who fail to achieve satisfactory math and reading scores to attend summer school in order to be promoted: one in five students in the nation's largest urban districts reportedly attend summer school, with some districts such as New York, Chicago, and Miami enrolling more than 40 percent of their students in these programs.⁷³ Many of the urban summer school programs, like Chicago's Summer Bridge Program, are related to attempts to reduce social promotion by providing summer school to the city's most at-risk students. Between 1997 and 2000, about 21,000 third-, sixth- and eighth-grade students in Chicago who failed to meet the state-required Iowa Test of Basic Skills attended the summer program.⁷⁴

According to the Consortium on Chicago School Research at the University of Chicago, the program has produced notable increases in test scores, particularly among sixth- and eighth-graders, and, "in all three grades, the rate at which the Summer Bridge students increased their test scores was above their rate during the school year."⁷⁵ Statistics from the Summer School 2001 program in New York City also showed improvement in student achievement: of the nearly 375,000 students enrolled in the program, sixty-five percent of students in grades 3 through 8 and 36 percent in grades 9 through 11 were promoted to the next grade after completing the program, while thirty-five percent of 12-graders graduated.⁷⁶

Whole School Reform

Comprehensive research-based whole school reform initiatives seek to restructure the entire instructional approach in a school in order to achieve consistent, lasting improvements in the performance of poor and minority students. The most widely implemented—and widely studied—of these programs is Success for All, a program that was originally developed for the Baltimore Public Schools in 1987 by Robert Slavin of Johns Hopkins University. At this point, the program has expanded to 1600 schools in 550 districts in 48 states,⁷⁷ and has served over one million children in its 16-year history.⁷⁸

Success for All is a comprehensive approach to restructuring elementary schools to ensure that every child learns to read. It usually begins in kindergarten and extends through grade six. Reading tutors are used to lower class sizes for intensive 90 minute reading blocks each day and to provide one-on-one instruction for students when needed. The program uses a comprehensive reading, writing, and language arts curriculum. Reading teachers assess each student every eight weeks to ensure that they are being assigned to the appropriate groups and are receiving the appropriate instruction.⁷⁹ A middle school extension of the program, known as Roots and Wings, which adds math, science, and social studies components, was introduced in 1994.⁸⁰

A 1999 analysis of comprehensive school reform models conducted by the American Institutes for Research (AIR), concluded that Success for All showed consistently strong evidence of positive effects on student achievement.⁸¹ The study's authors reviewed 16 empirical studies of the program and found that: "Not only does the research on Success for All show statistically and educationally significant improvement in student scores, but it does so consistently across the studies reviewed," noting that the positive benefits were greatest for at-risk children.⁸²

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Research conducted by Success for All creators Slavin and Madden further documents how the program has been effective in narrowing the achievement gap between white and minority students. In Texas, for example, African American students in Success for All schools improved from a 63.3 percent passing rate in 1995 to an 86.2 percent passing rate in 1998, while the passing rates for other African-American students only rose from 64.2 percent to 78.9 percent over the same period.⁸³ In a 2003 study that assessed the long-term impact of Success for All, researchers used data obtained from eighth-graders who were in the original Success for All and control schools in Baltimore and found that, “Success for All students were substantially less likely to have been retained...or to have spent time in special education...and savings due to these reductions more than offset the program’s cost.”⁸⁴ However, with the accelerating adoption of Success for All programs in school districts throughout the country, controversy has arisen regarding both its methodology and its outcomes. Proper implementation of the Success for All model, both in quality and completeness, has been essential to realizing of achievement gains, a point noted in reviews of research by both the program developers and outside analysts.

Not surprisingly, better results have emerged in schools that have implemented all of the program components, compared with schools implementing the program to a minimal degree.⁸⁵

Two of the other major comprehensive school reform programs, which have been widely adopted by many schools throughout the country are the School Development Program, founded by Yale University Professor James Comer,⁸⁶ and The Accelerated Schools Project, founded by Columbia University Professor Henry Levin.⁸⁷ The School Development Program focuses on fostering children’s social and emotional development and improving the school climate. The Accelerated Schools Project seeks to reorganize school governance and to link reorganization with fundamental changes in a school’s approach to teaching and

learning.⁸⁸ Although these programs have been studied less extensively than Success for All, the available data shows higher grades and achievement test scores for Comer students than non-Comer students, and that improvements persist and even increase over time.⁸⁹ According to the AIR report, “Of the two rigorous studies that report student effects, both suggest that Accelerated Schools improves student achievement, at least on certain measures.”⁹⁰

In New Jersey, the 30 high-need plaintiff school districts are implementing “whole school reform” in every school—a process that the State has been ordered to fund.⁹¹ Although this large-scale implementation of comprehensive school reform is recent and has focused mainly on preschool and elementary education, the percentage of students meeting standards on the state’s fourth-grade tests have increased markedly. Results at the eighth grade and high school levels have been flat so far.⁹²

THE ACADEMIC “PRODUCTION FUNCTION” DEBATE

The previous sections of this paper have summarized the extensive evidence accumulated over the past four decades, which demonstrates that adequate basic resources and well-implemented academic intervention programs can significantly raise the achievement levels of students from disadvantaged backgrounds. In the face of this evidence, one might conclude that the issue of whether money matters, first raised by the Coleman Report in 1966, would have been considered fully resolved years ago. The money matters debate was, however, prolonged long after the methodological shortcomings of the Coleman Report had been revealed because opponents of increased funding for at-risk children raised a new hurdle. Their claim, purportedly justified in technical economic terms through “education production function” analyses, asserted that there was no statistically signifi-

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cant correlation between increased funding for education and demonstrable improvements in student performance.

In everyday terms, the “education production function” analysis means using a regression analysis to measure the effects of certain inputs (like per-pupil funding or the actual resources that are purchased with that funding, like teacher salaries or textbooks) on an output (student achievement, measured in test scores or graduation rates, for example). In these analyses, researchers usually use standardized test scores, the most readily available output data.

Eric Hanushek, an economist at Stanford University’s Hoover Institution, has been the leading academic proponent of the use of production function analyses to defend the proposition that money doesn’t matter.⁹³ He argues that “key resources—ones that are the subject of much policy attention—are not consistently or systematically related to improved student performance,”⁹⁴ and that, amazingly, increases in school funding to needy schools “could actually be harmful” to students.⁹⁵ Hanushek’s position is largely based on production function analyses he has undertaken in 187 regressions based on 38 primary studies of the relationship between teacher/student ratios, teacher education, teacher experience, teacher salary, facilities and other such inputs, with outputs mostly in terms of standardized testing scores, but which also include some instances of “dropout rates, college continuation, student attitudes, or performance after school.”⁹⁶

The production function approach generally, and Hanushek’s work in particular, have been widely challenged as being simplistic and misleading because “they do not address serious questions of causation,”⁹⁷ and because they do not adequately account for across-district variations in the costs of educational services (such as teacher salaries), and the proportion of students with special needs who require additional, more costly services.⁹⁸ A related issue here is that the production function analyses measure outcomes solely in terms of standardized test score results,

which may not be complete and accurate measures of meaningful success.

Economists David Card and Alan Krueger have argued that test scores are only one measure of the impact of school quality. They offer compelling evidence that, after controlling for socioeconomic status and geographic cost variations, men educated in states with high-quality schools had, on average, more years of schooling and higher earnings in the workforce,⁹⁹ arguably, a valid measure of school success, albeit a more difficult one to measure than the snapshot standardized test scores provide.¹⁰⁰

The most extensive rebuttal of Hanushek's methodology was undertaken in a series of articles by University of Chicago education researchers Rob Greenwald, Larry Hedges, and Richard Laine. They first closely analyzed the 38 specific studies that Hanushek had identified in his work, rejecting the "vote-counting" approach he used to subjectively decide on the aspects of each study that would be counted in the overall analysis;¹⁰¹ then, using broader and more precise decision rules for conducting a comprehensive meta-analysis of the relevant literature, they concluded that nine of Hanushek's basic studies were inappropriate and that 31 other studies should be included. Analyzing in depth this larger universe, they concluded that:

...a broad range of school inputs are positively related to student outcomes, and...the magnitude of the effects are sufficiently large to suggest that moderate increases in spending may be associated with significant increases in achievement.¹⁰²

Hanushek also analyzed the results over time of student achievement scores on the National Assessment of Educational Progress (NAEP). Charting NAEP scores from 1970-1994, a period of substantial increases in per-pupil expenditures throughout the country, Hanushek concluded that "While aggregate performance measures are somewhat imprecise, [they] all point to no gains in student performance over time."¹⁰³ Even if these conclusions were accurate, they are misleading, because, as Peter Schrag has pointed out, "...since there is an increasingly large

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proportion of poor and Latino students, and thus of students whose native language is something other than English, one would expect a general dampening effect on the overall score.¹⁰⁴ In fact, Princeton's Alan Krueger has pointed out that because of a general rise in learning levels in the population at large, the student who is at the 50th percentile today would have been at the 56th percentile twenty-five years ago.¹⁰⁵

David Grissmer, a researcher with the RAND Corporation who has extensively studied the NAEP scores, has specifically demonstrated how Hanushek's conclusions, by over-relying on aggregate scores, are seriously misleading. Grissmer found that during the 1970s, when major increases in Title I funding focused on the needs of poor and minority students, there were significant increases in NAEP scores; as Title I funding proportionately decreased in later years, so did the achievement gains.¹⁰⁶ Specifically, during the 1970s and 1980s major increases in federal Title I funding consistently yielded higher reading and math scores, especially for African American and Latino students, making gains in narrowing the black-white achievement gap. While the average white student's NAEP reading scores increased four percentile points, the average African American student's gains were nearly six times that level, with gains of 23 percentile points; Latino students experienced gains of 7.5 percentile points.¹⁰⁷ Reliance on aggregate spending and aggregate achievement scores also masks the fact, as Grissmer notes, that the bulk of education funding increases since the 1970's have been targeted to special education, which he rightly points out "would not be expected to boost regular students' achievement and thus should not be categorized as inputs to raise overall achievement scores."¹⁰⁸

The focus on production function numbers in this academic debate actually masks a larger point that is often overlooked or distorted in discussions of the money matters issue in political discussions and in the media. The basic fact is that consistent large-scale correlations between increases in spending on public

education and student outcomes cannot be expected unless states have provided sufficient funding to supply qualified teachers, lower class sizes, provide students programs that have proven to be successful, and put in place effective accountability devices to ensure that the money is effectively spent for these purposes. Of course, money matters, but money is only going to matter if it is well-spent. Money thrown at problems will not have any positive impact on student achievement, but money that is used effectively will. Even Hanushek has conceded this point.¹⁰⁹ Testifying for the defendant in *Montoy v. State of Kansas*, Hanushek stated “that money spent wisely, logically, and with accountability would be very useful indeed.” He concluded by agreeing with the statement that “only a fool would say money doesn’t matter.”¹¹⁰

What then is the purpose of undertaking meta-analyses of dozens of instances of increased funding if we have no precise knowledge of how much money was needed to mount effective programs and how well the resources allocated were actually used in any particular instances? The real focus for education finance analysis at this time should be on these costing-out and accountability questions.

CONCLUSION: MAKING MONEY MATTER EVEN MORE

The sideshow created by the money matters debate of the past four decades has not been an innocuous academic pursuit. The widespread public perception that money may not matter—and the efforts that have gone into debunking this prevalent myth—have distracted attention from the real funding questions that need to be addressed in order to provide meaningful educational opportunities to all American students: how much money is needed and how can we assure that the funds are effectively spent?

For the past decade, almost every state in the country has embarked on a standards-based reform initiative in response to widespread concerns that America’s

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public schools were not producing students who could compete in the global economy or who could successfully assume the responsibilities of citizenship in our diverse modern society. Standards-based reform is probably the most comprehensive and significant reform of American education since the common school movement of the mid-19th century. It is built around substantive content standards in english, mathematics, social studies, and other major subject areas. These content standards are usually set at sufficiently high cognitive levels to meet the competitive standards of the global economy, and they are premised on the assumption that virtually all students can meet these high expectations if given sufficient opportunities and resources.¹¹¹ Once the content standards have been established, every other aspect of the education system, including teacher training, teacher certification, curriculum frameworks, textbooks, academic programs, and student assessments, must be revamped to conform to these standards. The aim is to create a seamless web of teacher preparation, curriculum implementation, academic programming, and student testing, eventually producing a coherent system that yields significant improvement in achievement for all students.¹¹²

Although many states have reported significant academic gains associated with standards-based reform, the full potential of standards-based reform has not been realized because insufficient attention has been given to ensure that (1) states and school districts have sufficient funding to carry out these reforms; and (2) meaningful accountability devices are established to ensure that funds are appropriately spent.

Recently, in order to ensure sufficient funding for schools to provide all students a meaningful opportunity to meet state standards, a number of states—some acting under court orders—have begun to develop methods for determining the actual cost of an adequate education. An education adequacy costing-out study determines the amount of money actually needed to make available all of the educational services required to provide every child an opportunity to meet the applica-

ble state education standards. A variety of approaches for undertaking such studies have been used in recent years in many states, including Arkansas, Kentucky, New York, Ohio, Maryland, New Hampshire, Wisconsin, and Wyoming.¹¹³

Most current accountability systems emphasize sanctions and penalties for poor outcomes, without providing any assurance that the students, schools, or districts being assessed or penalized were in fact accorded sufficient resources to provide their students meaningful opportunities. Moreover, insufficient attention is given in these schemes to focusing on the program initiatives that are being used to try to meet the established outcome goals. The prime example of this limited accountability approach is the federal No Child Left Behind Act¹¹⁴ which holds schools accountable for specific rates of “annual yearly progress” on standardized tests, but does not provide any means for assuring that adequate funding and proper programs are in place to support these achievement goals.

It is clear that “[I]nstead of reform without the possibility of enhanced resources, policymakers should advocate reform which incorporates high standards, continuing assessment, and adequate resources.”¹¹⁵ Understanding the need to focus adequate resources on programs and practices that work, a number of scholars and policymakers have begun to develop and implement new accountability approaches that provide regulatory direction and incentives for schools to devote resources to effective practices, while, at the same time, promoting school-based initiatives that create a positive climate for teaching and learning¹¹⁶—one in which all members of the school community take responsibility for promoting student achievement.¹¹⁷

These promising developments in costing out and in formulating and implementing new approaches to accountability based on shared responsibility for positive practices need to be encouraged. It is clear that we no longer need to debate whether money matters. We know that it does. The focus now should be on how to ensure that adequate funding is provided to all of our schools and that proper

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systems are in place so that all children truly are given a meaningful opportunity to meet academic standards that will prepare them to be competitive workers and capable citizens in the twenty-first century.

ENDNOTES

¹ Susan Chira, “Spending and Learning: Money’s Role Questioned in Schools Debate,” *The New York Times*, May 4, 2003.

² “More Money?” *The Wall Street Journal*, December 20, 2000.

³ *Hoke County Board of Education v. State of North Carolina I*, 95 CVS 1158 (N.C. Gen. Ct. of Justice, Sup. Ct. Div., 2000) at 74. Available at www.accessednetwork.org/legalbriefs/HOKEI.PDF

⁴ Education columnist Richard Rothstein has echoed these sentiments, writing that “the notion that extra money doesn’t matter would be hard to sell to suburban parents who exert great efforts raising money to supplement what taxes provide to schools.” See Richard Rothstein, “Lessons; Assessing Money’s Role in Making Schools Better,” *The New York Times*, November 14, 2001.

⁵ United States Department of Health, Education, and Welfare and United States Office of Education, *Equality of Educational Opportunity* (Washington DC: 1966).

⁶ *Ibid.*, 22.

⁷ *Ibid.*, 325.

⁸ Bruce J. Biddle and David C. Berliner, *What Research Says About Unequal Funding for Schools in America* (Tempe, AZ: Arizona State University, Education Policy Studies Laboratory, Education Policy Reports Project, Winter 2002), p. 14.

⁹ According to Biddle and Berliner in *What Research Says About Unequal Funding for Schools in America*, the “major errors” by Coleman and his colleagues included “fail[ure] to use available scaling techniques to validate their procedures...and fail[ure] to measure crucial variables now known to be associated with school effects,” as well as use of “non-standard procedures for statistical analyses that generated falsely deflated estimates for school effects,” p. 13-14, 37. The major flaw of the Coleman Report, according to James Guthrie, was its failure—because of the limitations of data at the time—to disaggregate school-based expenditures per-pupil from district-level expenditures per pupil. See James W. Guthrie, “Implications for Policy: What might happen in American education if it were known how money actually is spent?,” in Lawrence O. Picus and James L. Wattenberger, eds., *Where Does the Money Go?: Resource Allocation in Elementary and Secondary Schools* (Thousand Oaks, CA: Corwin Press, 1996).

¹⁰ *San Antonio Independent School District v. Rodriguez*, 411 U.S. 42 (1973). The Court specifically cited the Coleman Report and some of the follow-up literature that criticized it at n.86.

¹¹ For an overview and analysis of these state court litigations, see Michael A. Rebell,

“Education Adequacy, Democracy and the Courts,” in Timothy Ready, Christopher Edley, Jr. and Catherine E. Snow, eds., *Achieving High Educational Standards for All* (Washington D.C.: National Academy Press, 2002), p. 218-267.

¹² 1999 National Education Summit (Achieve, Inc. 1999), p. 11.

¹³ U.S. Secretary of Education Rod Paige, in a report issued shortly after NCLB became law, emphasized the research literature on the strong correlation between qualified teachers and student achievement. See U.S. Department of Education, *Meeting the Highly Qualified Teachers Challenge, The Secretary’s Annual Report on Teacher Quality* (2002), p. 6-7.

¹⁴ *CFE v. State of New York* 2003 WL 21468502 (N.Y. 2003); *Hoke County Bd. of Educ. v. State of North Carolina*, 95 CVS 1158, at 109-10 (Super. Ct. Wake County April 4, 2002).

¹⁵ See William L. Sanders and June C. Rivers, *Cumulative and Residual Effects of Teachers on Future Students Academic Achievement* (Knoxville: University of Tennessee Value-Added Research and Assessment Center, 1996), National Commission on Teaching and America’s Future, *Doing What Matters Most: Investing in Quality Teaching* (1997), Linda Darling-Hammond, *Teacher Quality and Student Achievement: A Review of State Policy Evidence* (CPRE, 1999), Brian Rowan, Richard Correnti and Robert J. Miller, *What Large-Scale, Survey Research Tells Us About Teacher Effects On Student Achievement: Insights from the Prospects Study of Elementary Schools*, (CPRE, 2002), Whitney Allgood and Jennifer King Rice, “The Adequacy of Urban Education: Focusing on Teacher Quality,” in Christopher Roellke and Jennifer Rice King, eds., *Fiscal Policy in Urban Education* (2002).

¹⁶ Ronald F. Ferguson, “Can Schools Narrow the Test Score Gap?” in Christopher Jencks and Meredith Phillips, eds., *The Black-White Test Score Gap* 351 (Washington D.C.: Brookings Institution Press, 1998).

¹⁷ *Ibid.*, 354-356. Analyzing achievement scores of a cohort of 25,000 fourth graders in 690 schools in Alabama, Ferguson and a colleague found that both teacher test scores and teacher education—as well as class sizes—exert consistently strong and positive impacts on student learning. Ronald F. Ferguson and Helen F. Ladd, “How and why Money Matters: An Analysis of Alabama Schools,” in Helen F. Ladd, ed., *Holding Schools Accountable: Performance-Based reform in Education* (Washington D.C.: The Brookings Institution Press, 1996), p. 265. Ferguson and Ladd’s findings directly addressed the relationship between socioeconomic disadvantages and school resources; they found that “it would take an increase of 25 percentage points in the percentage of college-educated adults...to achieve the same gain in reading scores that could be obtained by substituting teachers with test scores one standard deviation higher than those of the school’s current teachers.” *Ibid.*, 278.

¹⁸ Sanders and Rivers, *Cumulative and Residual Effects of Teachers on Future Students Academic Achievement*. They find that the least effective teachers produce gains of 14 percentile points for low-achieving students during the school year, compared to gains of 53 percentile points for the most effective teachers.

¹⁹ The Boston study found that students with top teachers surpassed the national median

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for growth in mathematics, while similar students placed with ineffective teachers achieved no gain; similarly, in Dallas, fourth graders who were assigned to three highly effective teachers in a row rose from the 59th percentile in reading to the 76th percentile by sixth grade, while a similar group assigned three consecutive ineffective teachers fell from the 60th percentile to the 42nd. These studies are discussed in Kati Haycock, “Good teaching matters: How well-qualified teachers can close the gap,” *Thinking K-16* (Summer 1998).

²⁰ Hanushek’s study, undertaken with Steven G. Rivkin and John F. Kain, is summarized in Peter Schrag, *Final Test: The Battle for Adequacy in America’s Schools* (New York, The New Press, 2003), pp 220-221.

²¹ Linda Darling-Hammond, testimony at trial in *Campaign for Fiscal Equity, Inc. v. State of New York* (Darling-Hammond, pp. 6349:176-6350:10).

²² National Commission on Teaching and America’s Future, *No Dream Denied: A Pledge to America’s Children - Summary Report* (Washington, D.C.: January 2003), p. 9.

²³ *Ibid.*, 10.

²⁴ Neil D. Theobald and Sabrina W.M. Laine, “The Impact of Teacher Turnover on Teacher Quality: Findings from Four States,” in Margaret L. Plecki and David H. Monk, eds., *School Finance and Teacher Quality: Exploring the Connections* (Philadelphia: Eye on Education, 2003), p. 33-34. Theobald and Laine cite federal survey data indicating that teachers who score in the top 25% nationally on the SAT or ACT are more likely to leave teaching.

²⁵ *Campaign for Fiscal Equity v. State of New York*, 187 Misc. 2d 1, 25-36, (Sup. Ct. N.Y. County 2001), aff’d, *CFE v. State of New York* 2003 WL 21468502 (N.Y. 2003).

²⁶ U.S. Department of Education, *Meeting the Highly Qualified Teachers Challenge, The Secretary’s Second Annual Report on Teacher Quality* (2003), p. 70. The report notes that in nine states—including California, and New York—over ten percent of public school teachers are in the classroom without full state certification. p. 36.

²⁷ According to the National Accreditation of Teacher Education (NCATE), “The least well-prepared teachers work with the most needy students. The percentage of unlicensed teachers hired in schools where more than half of the students are minority or poor is at least four times that of other schools. In schools with the highest minority enrollments, students have less than a 50 percent chance of getting a science or mathematics teachers who holds a license and a degree in the field he or she teaches.” See NCATE, *Summary Data on Teacher Effectiveness, Teacher Quality, and Teacher Qualifications* (Washington D.C.: NCATE) Available at: <http://www.ncate.org/resources/factsheettq.htm>.

²⁸ Craig D. Jerald, *All Talk, No Action: Putting an End to Out of Field Teaching* (Washington D.C.: Education Trust, 2002), p. 4.

²⁹ *Ibid.*, 6.

³⁰ National Commission on Teaching and America’s Future, *No Dream Denied: A Pledge to America’s Children* (Washington, D.C.: January 2003), p. 19-40.

³¹ See Gene V. Glass, et al., *School Class Size: Research and Policy* (London, UK: Sage Publications, 1982); Glen E. Robinson and James H. Wittebols, *Class Size Research: A Related Cluster Analysis for Decision-Making* (Arlington, VA: Education Research

Service, 1986), cited in Ivor Pritchard, *Reducing Class Size: What Do We Know?* (Jessup, MD: U.S. Dept. of Education, Office of Educational Research and Improvement, Revised March 1999), p. 1. Available at: www.ed.gov/pubs/ReducingClass/Class_size.html

³² Jeremy D. Finn, *Class Size and Students at Risk: What is Known? What is Next?* (Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement, National Institute on the Education of At-Risk Students, April 1998), Available at www.ed.gov/PDFDocs/class.pdf

³³ Frederick Mosteller, Professor of Statistics Emeritus at Harvard University, quoted in Finn, *Class Size and Students at Risk*.

³⁴ Jeremy D. Finn, Susan B. Gerber, Charles M. Achilles, and Jayne Boyd-Zaharias, "The Enduring Effects of Small Classes," *Teachers College Record* 103:2 (April 2001), p. 172.

³⁵ *Ibid.*, 173.

³⁶ *Ibid.*, 174.

³⁷ *Ibid.*

³⁸ Alan B. Krueger and Diane M. Whitmore, *Would Smaller Classes Help Close the Black-White Achievement Gap?* (Princeton, N.J.: Princeton University, Industrial Relations Section, Working Paper #451, March 2001), p. i.

³⁹ *Ibid.*, 16.

⁴⁰ *Ibid.*, 34-35.

⁴¹ *Ibid.*

⁴² Pritchard, *Reducing Class Size: What Do We Know?*, p. 5-6.

⁴³ *Ibid.*, 6.

⁴⁴ *Ibid.* See also, Biddle and Berliner, *What Research Says About Small Classes and their Effects*, p. 18.

⁴⁵ Thomas Toch, Betsy Streisand, and Steven Butler, "Does Class Size Matter?," *U.S. News and World Report*, October 13, 1997, p. 22.

⁴⁶ George W. Bohrnstedt and Brian M. Stecher, eds. *What We Have Learned About Class Size Reduction in California, CSR Research Consortium Capstone Report* (Sacramento, CA: California Department of Education, September 2002), p. 20.

⁴⁷ Christopher Jepsen and Steven Rivkin, *Class Size Reduction, Teacher Quality, and Academic Achievement in California Public Elementary Schools* (Sacramento, CA: Public Policy Institute of California, 2002).

⁴⁸ Arthur J. Reynolds, Judy A. Temple, Dylan L. Robertson, and Emily A. Mann, "Long-term Effects of an Early Childhood Intervention on Educational Achievement and Juvenile Arrest: A 15-Year Follow-up of Low-Income Children in Public Schools," *Journal of the American Medical Association* 285:18 (May 9, 2001), p. 2339-2346.

⁴⁹ W. Steven Barnett and Sarane Spence Boocock, *Early Care and Education for Children in Poverty: Promises, Programs, and Long-term Results* (Albany, NY: State University of New York Press, 1998), p. 29.

⁵⁰ *Ibid.*, 31-32.

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⁵¹ Cynthia Rice and David Nash, *Early Care and Education Coalition White Paper on Abbott and Early Childhood Program Aid Implementation*, available at www.edlawcenter.org/ELCPublic/AbbottPreschool/acnjpaper.htm.

⁵² W. Steven Barnett, "Early Childhood Education," in Alex Molnar, ed. *School Reform Proposals: The Research Evidence* (Greenwich, CT: Information Age Publishing, 2002), p. 1.24.

⁵³ See Ronald Ferguson, "Can School Narrow the Test Score Gap?" in Christopher Jencks and Meredith Phillips, eds. *The Black-White Test Score Gap* (Washington D.C.: Brookings Institution Press, 1998), p. 318, 322-325.

⁵⁴ Rice and Nash, *Early Care and Education Coalition White Paper on Abbott and Early Childhood Program Aid Implementation*.

⁵⁵ *Abbott v. Burke*, 1998 N.J. Superior Court decision, quoted on Education Law Center website at

<http://www.edlawcenter.org/ELCPublic/AbbottPreschool/AbbottPreschoolProgram.htm>

The remand court held evidentiary hearings in which W. Steven Barnett and Robert Slavin testified about the research that demonstrates both the efficacy and cost effectiveness of high-quality preschool programs. A special master appointed by the court submitted a report that referred to and reinforced this testimony. See *Abbott v. Burke*, S. Ct. Docket NO. M-622-96 (Mercer County Sup. Ct. Jan. 22, 1998) including Appendix A: Allen Odden, Recommendations for Resolving New Jersey *Abbott v. Burke IV*, after the November and December 1997 Hearings, Dec. 30, 1997); *Abbott v. Burke IV*, 710 A.2d450 (N.J. 1998) (Abbott V).

⁵⁶ *Hoke County v. State of North Carolina*, 95 CVS 1158, Memorandum of Decision, Section Two, 17-18 (Wake County Supreme Court March 26, 2000).

⁵⁷ For information regarding 16 other intensive literacy programs "that work" and references to the literature supporting that claim see Joellen Killion, *What Works In the Elementary School: Results-Based Staff Development* (NEA, 2002).

⁵⁸ Jessica Wolff, *Adequate Funding for New York's Schools: Communities Speak Out on What Schools Really Need to Succeed* (New York State Council on Costing Out, June 2003). Available at <http://www.cfequity.org/COSTINGOUTREPORT.PDF>.

⁵⁹ To become a Reading Recovery instructor, a teacher must be certified and must have at least three years of teaching experience. He or she is then permitted to enroll in the one-year graduate-level training program administered by Reading Recovery "teacher leaders," which combines theoretical classroom training with clinical hands-on teaching experience with small groups of children. After the training program, Reading Recovery teachers continue to participate in regular professional development sessions, which are intended to prepare teachers to effectively design instruction responsive to the needs and difficulties of the hard-to-teach students targeted by the program. See the Reading Recovery Council of North America website at:

<http://www.readingrecovery.org/sections/reading/implementation.asp>.

⁶⁰ *Reading Recovery Facts and Figures (U.S. 1984-2001)* on Reading Recovery Council of North America website, available at: www.readingrecovery.org/sections/reading/facts.asp

⁶¹ Evelyn A. O'Connor and Ognjen Simic, "The Effect of Reading Recovery On Special

Education Referrals and Placements,” *Psychology in the Schools* 39:6 (November 2002), p. 637. The authors state that , “Because Reading Recovery targets the lowest-performing first-grade students, it may help identify children who truly need further long-term assistance, while preventing low-achieving children who only need a short-term boost from entering a long-term program.”

⁶² *Reading Recovery Facts and Figures (U.S. 1984-2001)*, available at: www.readingrecovery.org/sections/reading/facts.asp.

⁶³ See New York University Reading Recovery Project, *Reading Recovery Project in New York City—Highlights of the School Year 1995-1996*, p. 2 and Jessica Wolff, *Proven Practices: “More Time on Task” Benefits Students at Risk*, In Evidence: Policy Reports from the CFE Trial, vol. 5 (Campaign for Fiscal Equity, February 2002), p. 9-10. New York University (NYU) is one of the universities affiliated with the Reading Recovery program as a University Training Center, which trains teacher leaders and teachers in the program. As part of the affiliation, researchers at the Steinhardt School of Education at NYU annually monitor the progress and success of Reading Recovery in participating schools in the New York City metropolitan area.

⁶⁴ Jessica Wolff, *Proven Practices: “More Time on Task” Benefits Students at Risk* (Campaign for Fiscal Equity, February 2002), p. 10. Most of the students who did not receive a full program missed lessons due to absenteeism or because they entered the program too late in the school year to receive the full 20 weeks of lessons. A much smaller number of students were withdrawn from the program because they were identified as having very serious learning difficulties requiring other services like special education. See Evelyn A. O’Connor and Ognjen Simic, “The Effect of Reading Recovery on Special Education Referrals and Placements,” *Psychology in the Schools* Vol. 39 Issue 6 (November 2002).

⁶⁵ Wolff, *Proven Practices: “More Time on Task” Benefits Students at Risk*, p. 10.

⁶⁶ M. Condon and S. Assad, “Demonstrating the cost effectiveness of Reading Recovery: Because it makes a difference.” *The Network News* (Reading Recovery Council of North America, Winter 1996), p. 12,14. Other cost analysis studies are cited by the Reading Recovery Council at www.readingrecovery.org/sections/reading/questions.asp#cost

⁶⁷ O’Connor and Simic, “The Effect of Reading Recovery on Special Education Referrals and Placements,” p. 641-643. In another NYU study conducted by Jane Ashdown and Ognjen Simic, Reading Recovery was also shown to be an effective literacy tool for students with limited English proficiency. See Jane Ashdown and Ognjen Simic, “Is Early Intervention Effective for English Language Learners? Evidence from Reading Recovery,” *Literacy Teaching and Learning* 5:1 (2000), p. 27.

Recently, Reading Recovery has become an item of controversy because of an internet letter written by a number of reading researchers who claimed that it should not be eligible for grants under a new \$900 federal reading initiative, apparently because it is not sufficiently phonetics-based and carries too high a price tag. According to Kathleen Kennedy Manzo, the letter, written by thirty-two researchers, also rebuked the program for failing to show that the “program works with students most at risk of failing...” See Kathleen Kennedy Manzo, “Advocates of ‘Reading Recovery’ Responding to Critics,” *Education Week*, November 6, 2002. In response, The Reading Recovery Council issued

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a 78 page rebuttal, which comprehensively reviews all of the relevant research studies, pro and con. See also, David J. Hoff, "Researchers Urge Officials to Reject Reading Recovery," *Education Week*, June 5, 2002.

⁶⁸Dr. Thomas Sobol, Testimony at Trial, February 26, 1999, p. 104. 719 N.Y.S. 2d (Sup. Ct., NY County 2001).

⁶⁹See <http://www.ecs.org/ecsmain.asp?page=/search/default.asp>. The authors note that because most of these programs are voluntary, participants are likely to be among the more motivated students in a given population. See also An-Me Chung, *After-School Programs: Keeping Children Safe and Smart* (Washington D.C.: U.S. Department of Education, June 2000) and Educational Research Service, *Making a Difference in Our Children's Future* ERS Spectrum, Summer 2000).

⁷⁰The New York City Department of Education, Division of Assessment and Accountability, *Flash Report #7 Year Two Analyses of Extended-Time and Non-Extended Time SURR Schools* (New York, NY: May 2002), p. 1-4 and The New York City Department of Education, Division of Assessment and Accountability, *Flash Report #7 Year Two Analyses of Extended-Time and Non-Extended Time SURR Schools* (New York, NY: September 2000), p. 1-4.

⁷¹See the Institute for Student Achievement's website at www.studentachievement.org.

⁷²Ibid. An independent study was conducted by researchers at Yale University who corroborated the success of the program. They found that students that have participated in COMET and STAR graduate from high school at higher rates than their peers, are more competent in higher-order thinking and analytical skills in a range of subject areas, have improved work and social habits, and have a better grasp of how decisions relate to future career and life choices. See Michael Ben-Avie and Trudy Raschkind Steinfeld, *The impact of a school-based academic and counseling intervention on the lifepaths of youth, An independent evaluation of the Institute for Student Achievement* (Paper presented at the Annual Meeting of the American Educational Research Association, Seattle, WA, April 13, 2001), p. 20.

⁷³Jodi Wilgoren, "Summer Classes Expanding in Push to Improve Skills," *The New York Times*, July 5, 2000. See also the Education Commission of the States at: <http://www.ecs.org/html/IssueSection.asp?issueid=121&s=Overview>

⁷⁴Melissa Roderick, Mimi Engel, and Jenny Nagaoka, "Ending Social Promotion: Results from Summer Bridge Chicago Consortium Study," *Charting Reform in Chicago Series* (Consortium on Chicago School Research, February 2003), p. 2.

⁷⁵Ibid.

⁷⁶New York City Board of Education, *Summer School 2001 Evaluation Report* (New York, NY: March 2002), p. iii-v. The report is available at: http://www.nycenet.edu/daa/Summer_School_2001/Complete.pdf

⁷⁷Robert E. Slavin and Nancy A. Madden, *Success for All/Roots & Wings: Summary of Research on Achievement Outcomes, Report No. 41 (Revised)* (Baltimore, MD: Center for Research on the Education of Students Placed At Risk, January 2002), p. 10.

⁷⁸See the Success for All Foundation website at www.successforall.net.

⁷⁹See W. Steven Barnett, "Economics of School Reform: Three Promising Models," in

Helen F. Ladd, ed., *Holding School Accountable: Performance-Based Reform in Education* (Washington D.C.: The Brookings Institution, 1996), p. 299, 302-303.

According to Barnett, Success for All's highly-scripted instructional approach has been criticized in some quarters as leaving little room for flexibility or creativity by classroom teachers.

⁸⁰ *Ibid.*, 303.

⁸¹ American Institutes for Research, *An Educators' Guide to Schoolwide Reform* (Washington, D.C.: 1999), p. 4.

⁸² *Ibid.*

⁸³ Robert E. Slavin and Nancy A. Madden, *Reducing the Gap: Success for All and the Achievement of African-American and Latino Students* (Paper presented at the annual meetings of the American Educational Research Association, Seattle, April 2001), p. 17.

⁸⁴ Geoffrey Borman and Gina Hewes, "Long-term effects and Cost-Effectiveness of Success for All," *Educational Evaluation and Policy Analysis*, 24.2 (2003), p. 243-266 cited in Robert Slavin, *Success for All/ Roots & Wings Summary of Research on Achievement Outcomes, Report no. 41* (Baltimore: Johns Hopkins University and Nancy A. Madden Report No. 41, September 2003), p. 32.

⁸⁵ See for example Stanley Pogrow, "Success for All Does Not Produce Success for Students," *Phi Delta Kappan* 82:1 (Sept. 2000); Stanley Pogrow, "Success for All is a Failure," *Phi Delta Kappan* 83:6 (February 2002). For responses to Pogrow's assertions, Robert E. Slavin and Nancy A. Madden, "Research on Achievement Outcomes of Success for All: A Summary and Response to Critics," *Phi Delta Kappan* 82:1 (2000); and Robert E. Slavin and Nancy A. Madden, *Success for All/Roots & Wings: 2002 summary of research on achievement outcomes* (Baltimore: Johns Hopkins University, Center for Research on the Education of Students Placed at Risk, 2002).

⁸⁶ In 2000, there were 389 active Comer schools. See for example <http://info.med.yale.edu/comer/quicklook.html> For a more detailed description of the program, see also James P. Comer, Norris M. Haynes, Edward T. Joyner, and Michael Ben-Avie, eds. *Rallying the Whole Village: The Comer Process for Reforming Education* (New York: Teachers College Press, 1996), p. 1, 29, 57-60.

⁸⁷ Since the pilot program of the accelerated schools was first launched in 1986, the number of accelerated schools has expanded to over 1,000 elementary and middle schools in 41 states with enrollments nearing 500,000 students.. See for example http://www.stanford.edu/group/ASP/asp_history.html; <http://www.stanford.edu/group/ASP/natlcenter.html>; and http://www.acceleratedschools.net/main_gen.htm

⁸⁸ Barnett, "Economics of School Reform: Three Promising Models," p. 300.

⁸⁹ American Institutes for Research (AIR), *An Educators' Guide to Schoolwide Reform*, p. 111. See also, Norris M. Haynes, Christine L. Emmons, Sara Gebreyesus, and Michael Ben-Avie, "The School Development Program Evaluation Process," in Comer, et al., eds. *Rallying the Whole Village*, p. 128-135.

⁹⁰ AIR, *An Educators' Guide to Schoolwide Reform*.

⁹¹ In 1998, on the basis of extensive hearings and a special master report, the Superior

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Court and subsequently the New Jersey Supreme Court mandated a whole school reform model in the high-need school districts. See *Abbott v. Burke*, S. Ct. Docket NO. M-622-96 (Mercer County Sup. Ct. Jan. 22, 1998) including Appendix A: Allen Odden, Recommendations for Resolving New Jersey *Abbott v. Burke IV*, after the November and December 1997 Hearings, Dec. 30, 1997); *Abbott v. Burke IV*, 710 A.2d450 (N.J. 1998) (*Abbott V*). In its 1998 decision, the Supreme Court also ordered extensive preschool and supplemental programs to address the health and social problems that the children in these districts face, as well as implementation of a comprehensive school facilities management plan.

⁹² Maia Davis, “Student Scores Show Progress, but Critics Question Price” *The Star-Ledger*, June 23, 2003.

⁹³ According to Eric Hanushek’s personal website, he has testified in a dozen state education court cases, appeared numerous times before the U.S. House and Senate, and has published hundreds of articles and reports. See www.hanushek.net

⁹⁴ Eric A. Hanushek, “The Quest for Equalized Mediocrity: School Finance Reform Without Consideration of School Performance,” in Lawrence O. Picus and James L. Wattenbarger, eds., *Where Does the Money Go? Resource Allocation in Elementary and Secondary Schools* (Thousand Oaks, CA: Corwin Press, 1996), p. 26-27.

⁹⁵ *Ibid.*, 20.

⁹⁶ Eric Hanushek, “When Reform May Not Be Good Policy,” 28 *Harv. J. Legisl.* 423, 434 (1991). See also, Eric Hanushek, “The Impact of Differential Expenditures on School Performance,” 18(4) *Educational Researcher* (1989), p. 45-65.

⁹⁷ Richard J. Murnane, “Interpreting the Evidence on ‘Does Money Matter,’” 28 *Harv. J. on Legisl.* 457, 458. Murnane further explains that “For example, many school districts have relatively high expenditure levels...because they serve students with low achievement levels. The same is true for the allocation of compensatory education funds among schools within a given school district.” Murnane argues that educational production functions are “an inappropriate basis for determining whether money matters” because they “do not adequately address serious questions of causation,” specifically, it is virtually impossible to take into account the range of human factors and other causative factors that impact students’ achievement levels. See p. 458.

⁹⁸ Corrine Taylor, “Does Money Matter? An Empirical Study Introducing Resource Costs and Student Needs to Education Production Function Analysis in Developments in School Finance,” *Developments in School Finance* (1997).

⁹⁹ David Card and Alan B. Krueger, “Does School Quality Matter? Returns to Education and the Characteristics of Public Schools in the United States,” *The Journal of Political Economy* 100:1 (February 1992), p. 35-36.

¹⁰⁰ Veteran educator and reformer Deborah Meier, best known for founding innovative, successful alternative public schools, also reminds us that critics fail to account for a wide range of measures of success when they cry “the system has failed.” As Meier has remarked:

Once you think test scores are the achievement measure, you can start proving that ‘money doesn’t matter.’ At the high school I ran in New York, 90 percent of the kids

raduated from high school and went on to college and did well in college. But their test scores didn't change much. So when people say to me, 'Well, more money doesn't help test scores,' I say that's not the only measure. You didn't send your kid to a private school just because their test scores would go up. You sent them because they had wonderful art programs, because they had good discussions, because they taught your kid to write good essays, because they pushed your kid to think more deeply. None of which are picked up in the test. The extra measures that money offers kids—such as smaller class sizes—are not sensitive to test scores.

See Deborah Meier, quoted in Amanda Paulson, "A plea to trust schools - not just tests," *The Christian Science Monitor*, September 17, 2002.

¹⁰¹ Rob Greenwald, Larry V. Hedges, and Richard D. Laine, "Does Money Matter?: A meta-analysis of Studies of the Effects of Differential School Inputs on Student Outcomes," 23 (3) *Educational Research* (1994), p.5-14. See also, Richard D. Laine, Rob Greenwald, and Larry V. Hedges, "Money Does Matter: A Research Synthesis of a New Universe of Education Production Function Studies," in Lawrence O. Picus and James L. Wattenberger, eds., *Where Does the Money Go? Resource Allocation in Elementary and Secondary Schools* (Thousand Oaks, CA: Corwin Press, 1996), p. 56-58. The resource variables analyzed were per-pupil expenditure, teacher quality (as measured by ability, education, experience, and salary) student-teacher ratio, and school size.

¹⁰² Rob Greenwald, Larry V. Hedges, and Richard D. Laine, "The Effect of School Resources on Student Achievement," *Review of Educational Research* 66:3 (Fall 1996), p. 362. Hanushek's reaction to the findings of Greenwald, et al. is set forth in Eric A. Hanushek, "A More Complete Picture of School Resource Policies," 66(3) *Review of Educational Research*, p. 397-409. See also, Alan B. Krueger, "Understanding the Magnitude and Effect of Class Size on Student Achievement," in Lawrence Mishel and Richard Rothstein, eds., *The Class Size Debate* (Washington, D.C.: Economic Policy Institute, 2002). (In deconstructing Hanushek's methodology, Krueger demonstrates that Hanushek places substantially more weight on studies based on small samples; a correct analysis of Hanushek's own data indicates that "class size is systematically related to student performance.")

The courts have also decisively rejected Hanushek's approach. Of the dozen cases listed on his website, Hanushek has been on the losing side in nine. See <http://edpro.stanford.edu/eah/legal.htm>. Typical was the recent rejection of Hanushek's testimony by the New York Court of Appeals: "The trial court found that the State's expert Dr. Hanushek failed to rebut these conclusions" that "smaller class sizes in the earliest grades correlate with better test results during those years and afterwards," adding, "We conclude that plaintiffs' evidence of the advantages of smaller class sizes supports the inference sufficiently to show a meaningful correlation between the large classes in City schools and the outputs to which we soon turn." *CFE v. State of New York* 2003 WL

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21468502 8 (N.Y. 2003).

Similarly, in another recent case in which Hanushek served as a main witness for the State North Carolina Superior Court Judge Howard Manning ruled in April 2002 that “at-risk children can learn with effective, individualized and differentiated instruction delivered by a certified, well-trained, competent teacher with high expectations” and that “at-risk children require more resources, time and focused intervention to learn.” *Hoke v. State of North Carolina*, Section Four- Judgment, 95 CVS 1158 (Wake County Sup. Ct. April 4, 2002).

¹⁰³ Hanushek, *The Quest for Equalized Mediocrity*, p. 26.

¹⁰⁴ Peter Schrag, *Final Test: The Battle for Adequacy in America’s Schools* (New York, The New Press, 2003), p. 208.

¹⁰⁵ Quoted in Schrag, *Final Test*, p.208.

¹⁰⁶ See David Grissmer, Ann Flanagan, Jennifer Kawata, and Stephanie Williamson *Improving Student Achievement: What State NAEP Test Scores Tell Us* (Rand Corporation, 2000).

¹⁰⁷ David W. Grissmer, *Education Productivity* (Washington, D.C.: NEKIA Communications, 1998), p. 16. See also, David Grissmer, Ann Flanagan, and Stephanie Williamson, “Does Money Matter for Minority and Disadvantaged Students? Assessing the New Empirical Evidence” in William J. Fowler, ed. *Developments in School Finance 1997* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, NCES 98-212, 1998), p. 15.

Biddle and Berliner, reviewing the “strong studies” regarding the “money doesn’t matter” debate concluded that socioeconomic status, rather than making funding reforms pointless, as Coleman first suggested, instead compounds the already deleterious effects of inadequate funding. “The joint effects of student advantage and school funding are sizable...The achievements of disadvantaged students are more likely to suffer in response to American inequities in school funding for two reasons: those students are more likely to attend poorly funded schools, and they are more likely to be hurt by lack of academic resources when schools are underfunded.” Biddle and Berliner, *What Research Says About Unequal Funding for Schools in America*, pp. 24-25. The take-home message is: money does matter, and more, not less, is needed to educate students who grow up in and around poverty and other disadvantages.

¹⁰⁸ Ibid, 11. See also Hamilton Lankford and James Wyckoff, “The Allocation of Resources to Special Education and Regular Instruction,” in Helen Ladd, *Holding Schools Accountable: Performance-Based reform in Education*, 221-257. They find that in New York City, per pupil spending for regular education students increased 7% compared to 62% for special education students between 1980 and 1993.

¹⁰⁹ Hanushek writes that “If schools are ineffective at [translating resources into student achievement] simply heaping more resources on poorly performing districts will do little to improve educational equity.” See Hanushek, “When “Reform” May Not Be Good Policy,” 454; {T}he real problem is [that |n]othing in the current structuremoves us to better use of resources.” See Hanushek, “The Quest for Equalized Mediocrity,” 37-38.

¹¹⁰ *Montoy v. State of Kansas*, Case No. 99-c-1738 (District Ct., Shawnee County Dec. 2,

2003).

¹¹¹ All children can learn; and we can change our system of public elementary, middle, and secondary education to ensure that all children do learn at world-class levels. @ New York State Board Of Regents, *All Children Can Learn: A Plan For Reform Of State Aid To Schools* (1993).

¹¹² For general descriptions of the standards-based reform approach, see Susan H. Fuhrman, ed., *Designing Coherent Education Policy: Improving the System* (New York: Jossey-Bass, 1993); Robert Rothman, *Measuring Up: Standards, Assessment and School Reform* (New York: Jossey-Bass, 2000). For detailed up-dates on progress toward implementing this comprehensive ideal, see Education Week, *Quality Counts 2002* (January 7, 2002) and Education Week, *Quality Counts 2003* (January 9, 2003).

¹¹³ The most widely discussed study in the literature to date was the professional judgment study undertaken James Guthrie and Richard Rothstein in Wyoming, in response to the court order in *Campbell v. State*. This complex scheme involved one week of full-day lengthy meetings of groups of Wyoming educators and then educators from surrounding states who were asked to identify all of the specific components of an instructional system that could deliver an adequate education. Once the panel had identified this “basket of education goods and services,” the two economist consultants determined the precise cost of obtaining those good and services for Wyoming school districts through an extensive series of economic analyses and market pricing assumptions. See James W. Guthrie and Richard Rothstein, “Enabling ‘Adequacy’ to Achieve Reality: Translating Adequacy into State School Finance Distribution Arrangements,” in Helen F. Ladd, Janet S. Hansen et al., eds., *Equity and Adequacy in Education Finance, Issues and Perspectives* (Washington D.C.: National Academy Press, 1999), p. 209-259. The most extensive costing-out study yet attempted, one that combines four of the major methodologies previously used to the circumstances of a large industrial state, is the adequacy study currently being undertaken jointly by the American Institutes for Research (AIR) and Management Analysis Planning, Inc. (MAP) in New York. For more information, see also the costing-out section of the Access Project website at www.schoolfunding.info/research/costout.htm

¹¹⁴ 20 U.S. sections 6300 etseq. (2002). For a thoughtful analysis of why the annual yearly progress concepts and other aspects of the No Child Left Behind Act are psychometrically unreasonable and unattainable, see Robert L. Linn, “Accountability, Responsibility and reasonable Expectations,” National Center for Research on Evaluation, Standards and Student Testing, U.C.L.A., Research Report , 2003.

¹¹⁵ Rob Greenwald, Larry V. Hedges, and Richard Laine, “The Effect of School Resources on Student Achievement,” *Review of Educational Research*, 66, no. 3 (Fall 1996): 386.

¹¹⁶ See for example W. Norton Grubb and Luis A. Huerta, “Straw Into Gold, Resources Into Results: Spinning Out the Implications of the ‘New’ School Finance,” *Policy Analysis for California Education Working Paper Series 01-1* (April 2001).

¹¹⁷ See for example Charles Abelman and Richard Elmore, “When Accountability Knocks, Will Anyone Answer?” Consortium for Policy Research in Education Research Report (1999).