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New Directions in School Funding and Governance: Moving from Politics to Evidence

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New Directions in School Funding and Governance: Moving from Politics to Evidence

Benjamin Michael Superfine

Since the late 1960s and early 1970s, courts and legislatures at both the federal and state levels have focused intensely on the financial resources devoted to public education. Unfortunately, the tremendous efforts devoted to improving the distribution of educational funds have largely failed to affect students' educational opportunities in the intended fashion. The decision-making processes about educational funding in both legislative and judicial spheres have historically been overly politicized, and policymakers have often made educational funding decisions without detailed attention to scientific evidence about educational resources. In response to such problems, legislatures and courts increasingly have looked to educational research to facilitate a more nuanced and rational approach to the distribution and use of educational resources—in areas ranging from No Child Left Behind to school finance litigation, governmental entities have become more sensitive to the value of scientific evidence for making decisions about these resources. Drawing insight from both the history of efforts to reform public school funding and modern educational research, this Article provides an analysis of recent judicial and legislative efforts to link decisions about educational resources with scientific evidence. Based on the analysis of the strengths and weaknesses of these efforts, this Article presents a new approach to school governance that would allow governmental institutions to make more effective decisions about educational resources.

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INTRODUCTION

Since the late 1950s, courts and legislatures at both the federal and state Devels have focused intensely on the financial resources devoted to public education.² In addition to prevalent educational statistics such as student achievement on standardized tests,³ school funding has constituted one of the most important indicators to observers for gauging school quality and educational opportunity.⁴ Because local wealth or property value has traditionally constituted one of the primary determinants of school funding, there often have been dramatic per pupil spending differences

² See William S. Koski & Rob Reich, When "Adequate" Isn't: The Retreat from Equity in Educational Law and Policy and Why It Matters, 56 EMORY L.J. 545, 554–89 (2006) (providing a detailed history of educational reform in courts and legislatures since the 1950s); see also Peter Enrich, Leaving Equality Behind: New Directions in School Finance Reform, 48 VAND. L. REV. 101, 104–66 (1995) (providing a detailed overview of different school funding schemes and litigation through the mid-1990s).

³ Observers of education quality often focus on student achievement on the National Assessment of Educational Progress (NAEP), a standardized test administered to students throughout the U.S. every two years. See, e.g., Lynn Olsen, NAEP Gains Are Elusive in Key Areas, EDUC. WK., Oct. 26, 2005, at 22–23 (discussing competing interpretations of NAEP trends). Many modern educational policy initiatives also require widespread student testing. See also Koski & Reich, supra note 2, at 578. The No Child Left Behind Act of 2001, Pub. L. No. 107–110, 115 Stat. 1425 (codified in scattered sections of 20 U.S.C.), also known as NCLB, requires states to test students annually in grades 3–8 and once in high school, and hinges the imposition of sanctions on the results of these tests. 20 U.S.C. § 6311(b)(3)(C)(v)–(vii), (g)(1)–(2) (2006). See also infra notes 123–40 and accompanying text.

⁴ See Michael Heise, Litigated Learning, Law's Limits, and Urban School Reform Challenges, 85 N.C. L. REV. 1419, 1424 (2007) ("One common barometer of the nation's investment in its public schools is current per pupil spending. This barometer emphasizes the primary focus of our educational efforts—students—and involves a resource that is easily understood—current spending.").

across school districts and states.⁵ Observers have particularly criticized the low and inequitable amount of funds devoted to the education of poor and minority students across the country.⁶ Reformers accordingly have looked to legislatures and courts to equalize and augment educational funding through various approaches, ranging from decisions in school finance lawsuits⁷ to increased funding under the No Child Left Behind Act of 2001 (NCLB).⁸ Despite a current emphasis on reform strategies hinging on a range of alternative (though sometimes complementary) concepts such as school choice,⁹ standards,¹⁰ accountability,¹¹ and the statutory codification of such concepts in sweeping laws such as NCLB,¹² educational funding continues to receive attention as one of the most important leverage points for improving schooling.

9 By 2010, forty states had laws allowing charter schools. See The CTR. FOR EDUC. REFORM, CHARTER SCHOOLS LAW RANKING AND SCORECARD 2010 (2009), http://www.edreform. com/_upload/ranking_chart.pdf.

10 Standards are written documents that describe the skills and knowledge that students must learn at various grades and in various subjects. For more information on standards in educational policy and particularly in NCLB, see *infra* notes 119-35 and accompanying text.

11 No Child Left Behind requires every state to have put in place an accountability system focusing on whether schools make "adequate yearly progress" (AYP) in student performance. See 20 U.S.C. § 6311(b)(2)(b). If schools fail to make AYP, a variety of administrative sanctions are prescribed. See 20 U.S.C. § 6316(b)(5)-(8). For a detailed description of the accountability provisions of No Child Left Behind, see *infra* notes 133-40 and accompanying text.

12 Although earlier iterations of the ESEA contained provisions requiring states to hold schools accountable for their performance, NCLB contains the most detailed and extensive accountability provisions in federal legislation thus far. For more detail on the history of the ESEA and NCLB, see *infra* notes 108–61 and accompanying text.

⁵ BENJAMIN MICHAEL SUPERFINE, THE COURTS AND STANDARDS-BASED EDUCATION REFORM 125-26 (2008); see also Bradley W. Joondeph, The Good, the Bad, and the Ugly: An Empirical Analysis of Litigation-Prompted School Finance Reform, 35 SANTA CLARA L. REV. 763, 765 (1995).

⁶ See, e.g., Goodwin Liu, Interstate Inequality in Educational Opportunity, 81 N.Y.U. L. REV. 2044, 2046 (2006) (discussing the legacy of slavery and segregation and their relationship to the problem of educational inequality between states across the nation); see also Henry M. Levin, On the Relationship Between Poverty and Curriculum, 85 N.C. L. REV. 1381, 1391 (2007) (discussing the educational opportunities poor students receive).

⁷ For a historical overview of reformers' use of the courts to equalize and increase school funding, see Enrich, *supra* note 2, at 104–66.

⁸ The No Child Left Behind Act of 2001, Pub. L. No. 107–110, 115 Stat. 1425 (codified in scattered sections of 20 U.S.C.), is the most recent reauthorization of the Elementary and Secondary Education Act of 1965, 89 Pub. L. 10, 79 Stat. 27 (codified in scattered sections of 20 U.S.C.) [hereinafter ESEA], which was originally enacted in 1965 as part of President Lyndon B. Johnson's War on Poverty. See Koski & Reich, supra note 2, at 573, 579. Title I of the ESEA, which contains most of the No Child Left Behind provisions discussed in this Article, is found at 20 U.S.C. §§ 6301–6578. For a historical overview of reformers' use of the U.S. Congress to provide funding for the compensatory education of poor students under Title I of the ESEA, see John F. Jennings, *Title I: Its Legislative History and Its Promise, in* TITLE I: COMPENSATORY EDUCATION AT THE CROSSROADS 1, 1 (Geoffrey D. Borman et al. eds., 2001).

Unfortunately, the tremendous efforts devoted to improving the distribution of educational funds have largely failed to affect students' educational opportunities in the intended fashion. Student achievement in the U.S. continues to lag behind that of other industrialized countries,¹³ and the achievement gap between white and minority students remains large.¹⁴ Several efforts at using the courts to equalize and augment educational funding have failed,¹⁵ and even where such efforts have succeeded, it is far from clear that school quality and learning opportunities have consistently been equalized or increased.¹⁶ Indeed, the decision–making processes about educational funding in both legislative and judicial spheres historically have been overly politicized, and policymakers have often made educational funding decisions without detailed attention to scientific evidence concerning resource use.¹⁷ As a result, we appear to have squandered huge amounts of resources, and many students remain in

¹³ For example, the average mathematics scale scores of eighth-grade U.S. students on the 2007 administration of the Trends in International Mathematics and Science Study (TIMSS) ranked behind five other countries, and the average science scale scores of fourthgrade U.S. students ranked behind seven other countries. *See* PATRICK GONZALEZ, NAT'L CTR. FOR EDUC. STATISTICS, HIGHLIGHTS FROM TIMSS 2007: MATHEMATICS AND SCIENCE ACHIEVEMENT OF U.S. FOURTH- AND EIGHTH-GRADE STUDENTS IN AN INTERNATIONAL CONTEXT, 6, 31-32 (2009), *available at* http://nces.ed.gov/pubs2009/2009001.pdf. Still, it is worth noting that the mathematics scores of U.S. students have risen since the previous administration of the TIMSS. *Id.* at ii.

¹⁴ Although the achievement gap between white and minority students on the NAEP narrowed from the 1970s to the 1980s, the gap has remained large since the late 1980s. See U.S. DEP'T OF EDUC., HIGH STANDARDS FOR ALL STUDENTS: A REPORT FROM THE NAT'L ASSESSMENT OF TITLE I ON PROGRESS AND CHALLENGES SINCE THE 1994 REAUTHORIZATION 13-17 (2001). For some evidence that the achievement gap between white and minority students may again be closing, see Mark Schneider, Comm'r, Nat'l Ctr. for Educ. Statistics, National Assessment of Educational Progress NAEP 2005 Science Results (May 24, 2006), http://nces.ed.gov/ whatsnew/commissioner/remarks2006/5_24_2006.asp.

¹⁵ See Joondeph, supra note 5 (examining the effects of school finance litigation on state school funding schemes); James E. Ryan, Schools, Race, and Money, 109 YALE L.J. 249, 267 (1999) (stating that during the heyday of the school funding equity lawsuits, only seven of twenty challenges resolved by state supreme courts were successful). Although efforts at increasing the adequacy of educational funding have fared better, these efforts have not been universally successful. See SUPERFINE, supra note 5, at 130 (stating that in adequacy litigation, several courts have questioned their institutional competencies and the constitutional justifiability of defining adequacy).

¹⁶ Several researchers have highlighted the lack of clear empirical links between school funding and student achievement. See David K. Cohen et al., Resources, Instruction, and Research, 25 EDUC. EVALUATION AND POLY ANALYSIS 119, 120-21 (2003) (discussing decades of empirical research on the relationship between funding and student achievement). For a more detailed discussion of the relationship between funding and learning opportunities, see infra notes 95-107 and accompanying text.

¹⁷ See, e.g., Abbott v. Burke, 693 A.2d 417, 435 (N.J. 1997) (finding that a school funding statute was not based on a study of the costs of meeting students' actual needs); see also Heise, supra note 4, at 1423 ("[J]udicial remedies frequently assume a causal relation between increased resource levels and student academic achievement.").

schools that fail to provide them with sufficient opportunities to learn.

In at least a partial response to such problems, legislatures and courts have increasingly looked to educational research to facilitate a more nuanced and rational approach to the distribution and use of educational funds. While educational research has certainly had some place in the decision-making processes of all the governmental branches for decades,¹⁸ it has started to become increasingly and more explicitly connected with decisions about the distribution and use of educational resources.¹⁹ For example, federal statutes like NCLB that target funds at poor students require several programs to be based on "scientifically–based research,"²⁰ and several state courts considering school finance cases have increasingly considered scientific evidence about the funds required to provide students with "adequate" educations.²¹

On one hand, this trend appears to be a well-targeted response to the historical problem of making decisions about educational funding largely on the basis of political preference—as governmental entities become more sensitive to scientific evidence, decisions about educational funding should become less about politics and more about evidence and knowledge. But on the other hand, this trend raises some serious concerns. Because social science knowledge about educational funding and its effects is limited, research currently provides few clear and precise answers about how educational resources should be distributed to effectively boost

¹⁸ See MARK A. CHESLER ET AL., SOCIAL SCIENCE IN COURT: MOBILIZING EXPERTS IN THE SCHOOL DESEGREGATION CASES 62-89 (1988) (examining the role of social scientists in desegregation litigation); David L. Featherman & Maris A. Vinovskis, Growth and Use of Social and Behavioral Science in the Federal Government since World War II, in SOCIAL SCIENCE AND POLICY-MAKING: A SEARCH FOR RELEVANCE IN THE TWENTIETH CENTURY 40, 47-70 (David L. Featherman & Maris A. Vinovskis eds., 2001) (examining the growth of the role of social scientists in the federal government).

¹⁹ See infra notes 59-94 and accompanying text.

²⁰ The phrase "scientifically based research" appears in No Child Left Behind at least 111 times, according to an unofficial U.S. Department of Education count. See KRISTEN TOSH COWAN WITH CHARLES J. EDWARDS, THE NEW TITLE I: THE CHANGING LANDSCAPE OF ACCOUNTABILITY 145 (2005). As discussed *infra* notes 212-32 and accompanying text, the Education Sciences Reform Act of 2002, Pub. L. No. 107-279, §§ 102-112 & 134, 116 Stat. 1940, 1943-1945, 1957 (2002), situates the concept of "scientifically based research" at the center of the U.S. Department of Education's funding agenda, and specifies that funded research must be based on this concept. The Higher Education Opportunity Act Reauthorization, Pub. L. No. 110-315, §§ 200-201, 122 Stat. 3078, 3129-3136 (2008), also emphasizes program evaluations and the conduct of research under "scientifically based research" standards.

²¹ Courts have particularly looked at "cost studies" performed in states to determine the cost of providing students with adequate educations or with the skills and knowledge outlined in state standards. Since 1990, cost studies have been conducted in over thirty states, and courts have repeatedly relied on these studies in finding that states have unconstitutionally funded schools. See Michael A. Rebell, Professional Rigor, Public Engagement and Judicial Review: A Proposal for Enhancing the Validity of Education Adequacy Studies, 109 TCHRS. C. REC. 1303, 1304-05 (2007).

the performance of schools and various groups of students, or achieve other specific results, such as increasing graduation rates.²² Moreover, although our knowledge about school resources is growing, the educational research enterprise is such that it may never yield the types of concrete recommendations that policymakers seek about educational funding—in contrast to the natural sciences, educational research is very sensitive to nuanced differences in context. It accordingly has proven very difficult, if not impossible, to craft policy recommendations about educational funding that are fully based on educational research and apply at scale.²³ Compounding these problems, courts and legislatures have faced significant difficulties effectively interpreting social science evidence when they have actually considered it,²⁴ and critics have hotly debated the theoretical justifiability of these institutions focusing on this evidence.²⁵

As a result of such issues, we are left with a serious dilemma: educational funds are clearly important for structuring students' educational opportunities, but we have long deployed resources inequitably, inadequately, and without sufficient attention to evidence about their effectiveness. At the same time, it has proven very difficult to obtain solid scientific knowledge about the use and distribution of educational funds in a way that can constitute a basis for sound policy, and it would appear difficult for courts and legislatures to effectively interpret such knowledge even if we had it.

This Article explores this dilemma by examining major recent governmental approaches for improving the use of educational resources by linking decisions about these resources with scientific evidence—an

²² See Maris A. Vinovskis, Missed Opportunities: Why the Federal Response to a Nation at Risk Was Inadequate, in A NATION REFORMED?: AMERICAN EDUCATION 20 YEARS AFTER A NATION AT RISK 115, 116, 120-30 (David T. Gordon ed., 2003) (highlighting the lack of a research base for educational policy decision-making); Steven W. Raudenbush, Learning from Attempts to Improve Schooling: The Contribution of Methodological Diversity, EDUC. RESEARCHER, June/July 2005, at 26 ("Knowledge about how to use resources in instruction is key, yet woefully lack-ing.").

²³ See Cohen et al., supra note 16, at 138 ("[B]ecause resources become active when used in mutual instructional adjustment, they are unlikely to have a fixed instructional value. Their value is likely to depend on the uses to which they are put").

²⁴ See Helen Hershkoff, Positive Rights and State Constitutions: The Limits of Federal Rationality Review, 112 HARV. L. REV. 1131, 1176 (1999) ("[L]egislatures in many states suffer from numerous institutional deficits that affect their ability to focus on complex issues in a sustained and informed manner."); Kevin G. Welner & Haggai Kupermintz, Rethinking Expert Testimony in Education Rights Litigation, 26 EDUC. EVALUATION AND POL'Y ANALYSIS 127, 127, 132-40 (2004) (arguing that courts have faced difficulties understanding scientific arguments undergirding factual claims in education litigation, and may be led into a "false sense of security" about the validity of claimed facts).

²⁵ See Edmund Cahn, Jurisprudence, 30 N.Y.U. L. REV. 150, 157-58 (1955) ("I would not have the constitutional rights of Negroes—or of other Americans—rest on any such flimsy foundation as some of the scientific demonstrations in these records.").

area that legal and educational scholars have barely considered.²⁶ This Article particularly focuses on recent school finance reform litigation and federal statutes like NCLB that explicitly reference "scientifically-based research" in education to guide funding decisions because these are the major areas in which decisions about resource use and social science are becoming increasingly connected. Furthermore, this Article analyzes governmental approaches to educational resource use in these areas in light of educational research and the ways in which governmental institutions historically have approached the issue of educational resources. Based on this analysis, this Article offers recommendations about how educational governance should be reformed to facilitate the more effective distribution and use of educational resources.

In order to explore the issues grouped around the use of scientific evidence to make decisions about the distribution and use of educational resources, this Article is divided into four primary parts. Part I examines how courts historically have approached educational funding in school finance cases and have looked to scientific evidence in recent school finance reform cases. This Part also considers the courts' treatment of educational funding and scientific evidence in light of insights from educational research. Part II examines how the U.S. Congress historically has approached educational funding in the federal statutes prefiguring NCLB, and the ways in which Congress has begun to explicitly link the concept of "scientifically-based research" to funding determinations in NCLB. Like Part I, Part II also considers the congressional treatment of educational funding and scientific evidence in light of insights from educational research. Part III discusses how the U.S. Congress has begun to regulate more strictly the funding of educational research through the concept of "scientifically-based research" to facilitate the production of evidence that is directly applicable to policymaking and aimed at making educational policies more efficient. This Part also analyzes such regulation in light of educational research. Finally, Part IV discusses principles for making more effective use of educational resources and outlines an approach to governance for implementing these

²⁶ To be sure, many scholars have written on the issue of educational funding—it has proven to be a hot-button topic for legal and educational research for decades. For perhaps the most famous report on this topic, see JAMES S. COLEMAN ET AL., U.S. DEP'T OF HEALTH, EDUC., & WELFARE, EQUALITY OF EDUCATIONAL OPPORTUNITY STUDY (1966) (discussing the influence on educational resources on student achievement). Since the "Coleman Report," scholars have focused on high-profile issues such as the inequitable distribution and insufficient amounts of educational funding, the difficulties courts have particularly faced crafting effective reform in this field, and the perceived potential of new governance structures, such as accountability and school choice, to make schools more efficient institutions. See, e.g., JOHN E. CHUBB & TERRY M. MOE, POLITICS, MARKETS, AND AMERICA'S SCHOOLS (1990); Michael Heise, Litigated Learning and the Limits of Law, 57 VAND. L. REV. 2417, 2456-61 (2004) (discussing the limitations of judicial action in desegregation and school funding litigation). However, none of this literature systematically analyzes the ways in which governmental institutions have linked decisions about education resources with scientific evidence.

principles.

I. SCHOOL FINANCE REFORM LITIGATION

A. History

Since school finance reform litigation emerged in the late 1960s and early 1970s, it has constituted one of the most important types of educational litigation, and educational reform more generally, in the U.S.²⁷ Because local wealth or property value traditionally has constituted one of the primary determinants of school and district funding, there are often large per pupil spending differences across districts within states.²⁸ Plaintiffs in school finance lawsuits historically have aimed at reforming this funding structure by equalizing and augmenting educational resources available for the education of children in less wealthy districts. Since school finance litigation began, it has proven to be a very popular strategy for education reform—these lawsuits have appeared in forty-five states, and plaintiffs have prevailed in twenty-six of the forty-five cases that have resulted in a judicial decision.²⁹

Given that such litigation has persisted for decades, legal strategies employed by plaintiffs have shifted over time, and school finance litigation has been characterized as appearing in three different waves.³⁰ During the first wave, reformers brought their cases in federal courts and relied primarily on the Equal Protection Clause of the U.S. Constitution³¹ plaintiffs generally argued that education is a right that must be provided equally to all students and that wealth constitutes a suspect classification.³² However, when the Supreme Court considered this argument in 1973, it

31 U.S. CONST. amend. XIV, § 1.

32 See, e.g., San Antonio Indep. Sch. Dist. v. Rodriguez, 411 U.S. 1, 17-19 (1973) (discussing the use of wealth as a suspect classification).

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²⁷ See SUPERFINE, supra note 5, at 125-26.

²⁸ Id.; see also William E. Thro, To Render Them Safe: The Analysis of State Constitutional Provisions in Public School Finance Reform Litigation, 75 VA. L. REV. 1639, 1679 (1989); ALLAN R. ODDEN & LAWRENCE O. PICUS, SCHOOL FINANCE: A POLICY PERSPECTIVE 1, 27 (3d ed. 2004). In addition to large differences in spending among districts within states, there are also significant spending differences among states. See Liu, supra note 6, at 2045.

²⁹ See William S. Koski, Achieving "Adequacy" in the Classroom, 27 B.C. THIRD WORLD L.J. 13, 14 (2007).

³⁰ The wave metaphor has been commonly employed by scholars to describe the different types of school finance litigation. See, e.g., Gail F. Levine, Note, Meeting the Third Wave: Legislative Approaches to Recent Judicial School Finance Rulings, 28 HARV. J. ON LEGIS. 507, 509 (1991). Although at least one scholar has critiqued the accuracy of the wave metaphor, I use it here because it is useful for structuring a brief overview of the major issues in decades of school finance litigation. See William S. Koski, Of Fuzzy Standards and Institutional Constraints: A Re-examination of the Jurisprudential History of Educational Finance Reform Litigation, 43 SANTA CLARA L. REV. 1185, 1186-94 (2003).

found that the Equal Protection Clause does not constitute a viable basis for equalizing differences in educational funding.³³

In the second wave, reformers continued to focus on the equalization of educational resources across districts, but they now relied on equal protection clauses in state constitutions and brought lawsuits in state courts.³⁴ Some plaintiffs also focused on "education clauses" contained in state constitutions, which generally indicate that states must provide students with a "thorough and efficient" education or some similar type of education.³⁵ While second wave lawsuits were more successful than first wave lawsuits, their effectiveness was also limited.³⁶ Judges had significant difficulties defining precisely what resources needed to be equalized,³⁷ and some courts indicated that deciding in this area would require them to delve more deeply into the inner workings of schools than they felt competent to do.³⁸ Even where plaintiffs prevailed in second wave lawsuits, courts often crafted vague remedial orders, and state legislatures (which consistently received strong political pressure from wealthy districts) often failed to respond effectively to court orders.³⁹ In some states, equalization of district spending resulted in low overall spending levels,40 and legislative responses to judicial orders rarely improved student achievement.⁴¹

Reformers in the third wave responded to such problems with a new type of legal argument—one focusing on adequacy of educational resources instead of equality. Beginning in the late 1980s, plaintiffs heavily relied on education clauses of state constitutions to argue that states must provide a

³³ Id. at 18 ("[W]e find neither the suspect-classification nor the fundamental-interest analysis persuasive.").

³⁴ See Robert F. Williams, Equality Guarantees in State Constitutional Law, 63 Tex. L. Rev, 1195, 1214–16 (1985) (discussing the use of equal protection clauses by plaintiffs in school finance cases).

³⁵ See Enrich, supra note 2, at 105-06 ("A number of these education clauses obligate the state legislatures to provide for 'a thorough and efficient system' of public schools, while others use a broad variety of other formulations.").

³⁶ See id. at 143 ("Despite its powerful attractiveness, and despite its continuing preeminence, equality has proven a disappointing tool in the struggles over education funding.").

³⁷ See id. at 104, 143-44 (stating that educational resources in school finance suits often have been defined in terms of tax capacity, expenditures, goods or services, and student performance).

³⁸ See, e.g., McDaniel v. Thomas, 285 S.E.2d 156, 165 (Ga. 1981) (stating that the state legislature should define an adequate education).

³⁹ See, e.g., RICHARD F. ELMORE & MILBREY WALLIN MCLAUGHLIN, REFORM AND RETRENCHMENT: THE POLITICS OF CALIFORNIA SCHOOL FINANCE REFORM (1982) (describing the politics of school finance reform in California); Mark Jaffe & Kenneth Kersch, Guaranteeing a State Right to a Quality Education: The Judicial–Political Dialogue in New Jersey, 20 J.L. & EDUC. 271, 277 (1991) (describing the politics of school finance reform in various states).

⁴⁰ See Jennifer L. Hochschild & Nathan Scovronick, The American Dream and the Public Schools 66 (2003).

⁴¹ Joondeph, supra note 5, at 793-97.

minimum amount of funds sufficient to meet the constitutional guarantee of a thorough and efficient education (or whatever type of education is guaranteed by the relevant education clause).⁴² Third wave lawsuits generally fared better than second wave lawsuits-"twenty-one out of the twenty-six states in which courts [] considered adequacy claims [] had rulings that were favorable to adequacy plaintiffs."43 In the third wave cases won by plaintiffs (as well as in second wave cases won by plaintiffs), courts have generally assumed or found that increasing educational funding would result in increased student learning opportunities and achievement.44 Still, several courts examined the various types of resources that additional funding could buy, including qualified teachers and staff, schools supplies (such as books), facilities repairs, and lower student-teacher ratios.45 Unfortunately, adequacy litigation has also failed consistently to produce the intended results. As in second wave litigation, some states under court order failed to pass strong legislation restructuring school funding even after years of attempts.⁴⁶ Although adequacy litigation appears to have resulted in some increases in educational funding,⁴⁷ there is little evidence that student learning has actually improved as a result of court orders to increase spending.⁴⁸ Moreover, some scholars have argued that the shift in focus from equality to adequacy is undesirable because of the systemic inequities in the structure of the U.S. education system.⁴⁹ Though adequacy litigation has historically been more successful than second wave

47 See Kimberly Jenkins Robinson, The Case for a Collaborative Enforcement Model for a Federal Right to Education, 40 U.C. DAVIS L. REV. 1653, 1670 (2007) ("Where plaintiffs succeeded, states typically increased spending levels and the spending gap between poor and rich districts narrowed.").

48 Jay P. Greene & Julie R. Trivitt, *Can Judges Improve Academic Achievement?*, 83 PEABODY J. EDUC. 224, 225 (2008) ("[W]e find no evidence to suggest that student learning improves as a result of court-ordered changes in school finance systems.").

49 Koski & Reich, *supra* note 2, at 549 (2006) ("[T]he recent shift away from equityminded policies to adequacy (or equity-neutral) policies must be reconsidered.").

⁴² Many third wave cases were largely modeled on the landmark case *Rose v. Council for Better Educ., Inc.,* 790 S.W.2d 186 (Ky. 1989) (ruling that Kentucky did not provide students with "efficient" educations).

⁴³ Regina R. Umpstead, Determining Adequacy: How Courts Are Redefining State Responsibility for Educational Finance, Goals, and Accountability, 2007 BYU EDUC. & L.J. 281, 281 (2007) (discussing adequacy litigation in the 1990s and 2000s).

⁴⁴ See Heise, supra note 4, at 1451; see also Michael A. Rebell, Poverty, "Meaningful" Educational Opportunity, and the Necessary Role of the Courts, 85 N.C. L. Rev. 1467, 1485 (2007) ("In many [school finance] cases, ... experts explicitly testified on the specific issue of whether money matters. In others, the courts implicitly considered this issue").

⁴⁵ See Umpstead, supra note 43, at 293-94.

⁴⁶ See, e.g., Claremont Sch. Dist. v. Governor, 794 A.2d 744, 759 (N.H. 2002) (indicating that the school finance lawsuit in New Hampshire had stretched for nine years); Abbott v. Burke, 748 A.2d 82, 84 (N.J. 2000) (condemning "twenty-eight years of 'major judicial involvement" in a school finance lawsuit).

litigation in court, its effectiveness at addressing the fundamental problem of increasing the learning opportunities of poor and minority students has been limited.

B. Tying Adequacy with State Standards

In response to the problems persistently faced in adequacy litigation, several courts have begun to consider ways to make their role in school funding more effective. One such response targets the problem of defining adequacy itself. Adequacy is, by nature, an ambiguous concept that can be defined in any number of ways.⁵⁰ For example, the Kentucky Supreme Court defined an adequate education in relation to seven primary capacities that students must attain,⁵¹ while the North Carolina Supreme Court defined an adequate education in terms of four such capacities.⁵² Largely in response to such definitional ambiguity, several courts have recently looked to content standards—state mandates of what students should know and be able to do—to provide a more concrete basis for defining an adequate education.⁵³

Using standards to define adequacy provides many advantages to courts in school finance suits. Having concrete legislative standards has helped reduce judicial fears that creating standards is not a task that judges have the capacity to manage effectively⁵⁴ or should manage, given the non-justiciable political question doctrine.⁵⁵ Moreover, because these

⁵⁰ DEBORAH A. STONE, POLICY PARADOX: THE ART OF POLITICAL DECISION MAKING 98–104 (2d ed. 1997). Although Stone does not explicitly mention the term "adequacy," she uses the term "security" throughout her work to discuss essentially the same concept. As her work demonstrates, adequacy can be defined in several different ways and for several different purposes.

⁵¹ See Rose v. Council for Better Educ., Inc., 790 S.W.2d 186, 212 (Ky. 1989) (detailing seven capacities which Kentucky must provide to its student for the students to receive an adequate education).

⁵² See Leandro v. State, 488 S.E.2d 249, 255 (N.C. 1997) (detailing four capacities which North Carolina must provide to its student for the students to receive an adequate education).

⁵³ See, e.g., SUPERFINE, supra note 5, at 163 ("[S]ome courts have used standards and assessments aligned to these standards to define and measure adequacy."). But see James E. Ryan, Standards, Testing, and School Finance Litigation, 86 Tex. L. Rev. 1223, 1225 (2008) (arguing that few of states' highest courts have expressly relied on standards to define adequacy).

⁵⁴ See Molly S. McUsic, The Law's Role in the Distribution of Education: The Promises and Pitfalls of School Finance Litigation, in LAWAND SCHOOL REFORM: SIX STRATEGIES FOR PROMOTING EDUCATIONAL EQUALITY 88, 91 (Jay P. Heubert ed., 1999) (arguing for the use of standards in school finance suits because it enables courts to rely on "polic[ies] established by education experts and endorsed by the legislature or the state department of education").

⁵⁵ Courts have cited the political question doctrine in several school finance cases. See, e.g., Coal. for Adequacy and Fairness in Sch. Funding, Inc. v. Chiles, 680 So. 2d 400, 407 (Fla. 1996); Comm. for Educ. Rights v. Edgar, 672 N.E.2d 1178, 1190 (Ill. 1996); Danson v. Casey, 399 A.2d 360, 366 (Pa. 1979).

standards are aligned to state assessments, results of these assessments become directly relevant to analyses of whether students have received adequate educations and provide courts with much more information about the *types* of education actually received by students.⁵⁶ To be sure, some scholars have highlighted the potential disadvantages of courts using standards in such a fashion. For example, researchers have criticized the use of standards because legislatures may not actually intend for standards to be used as proxies for adequacy57 or because, even where state standards are used, courts lack the technical and scientific capacities to effectively analyze school finance policies and craft remedial orders.⁵⁸ Still, the emergence of standards in school finance litigation at least represents a new judicial approach aimed at improving the courts' role in this litigation. By examining not just educational resources, but also a concrete vision of the skills and knowledge that educated students are supposed to have, several courts have recently attempted to think in a more evidence-based fashion about the value of financial resources in education.

C. Cost Studies

Despite the potential advantages of using standards and assessments to clarify the relationship between funding and educational opportunities, standards themselves do not answer the question of what levels and types of resources are necessary to provide students with sufficient learning opportunities. In part growing out of the emerging relationship between adequacy and standards, the proliferation of "cost studies" in school finance litigation constitutes one major way in which courts have attempted to address this question.⁵⁹ In several recent school finance cases, courts have called upon legislatures or independent consultants to conduct studies that estimate a state's cost to provide students with adequate educations.⁶⁰ While what constitutes an adequate education can vary from study to study,

⁵⁶ See Benjamin Michael Superfine, Using the Courts to Influence the Implementation of No Child Left Behind, 28 CARDOZO L. REV. 779, 830 (2006) ("[S]everal courts have used data from assessments tied to state standards to help determine whether a state has met the requirements of the relevant education clause.").

⁵⁷ See Aaron J. Saiger, Legislating Accountability: Standards, Sanctions, and School District Reform, 46 WM. & MARY L. REV. 1655, 1711 (2005).

⁵⁸ See Michael Heise, The Courts, Educational Policy, and Unintended Consequences, 11 CORNELL J.L. & PUB. POL'Y 633, 634 (2002) ("Courts' institutional limitations hamstring their ability to formulate and implement educational policy.").

⁵⁹ See, e.g., Columbia Falls Elementary Sch. Dist. No. 6 v. State, No. BDV-2002-528, 2004 WL 844055, at *21 (Mont. Dist. Ct. Apr. 15, 2004) (relying on a cost study and stating that the state must ensure that sufficient resources are available to help students meet state standards).

⁶⁰ See Nat'L Access Network, Status of Education Adequacy Cost Studies in the 50 States (2007), http://www.schoolfunding.info/policy/CostingOut/Costing-Out-Chart.pdf.

many cost studies anchor the definition of an adequate education in state standards or state accountability systems linked to standards.⁶¹ Because each state has its own accountability system and set of standards that can dramatically differ from those of other states, the definition of adequacy employed in cost studies can differ significantly from state to state as well.⁶²

Methodological differences in the ways that the cost studies are conducted can also result in significant differences among cost studies. Four methodologies primarily have been employed in cost studies to determine the amount and types of resources necessary to provide students with adequate educations.⁶³ The "professional judgment" method relies on educational experts (such as teachers) to determine the resources necessary to produce a specified level of achievement.⁶⁴ After determining what resources are needed from these experts, the cost of these resources is determined. The "expert judgment" model relies on literature specifying "effective models" of school reform on the basis of empirical evidence, as recommended by panels of experienced educators and researchers.⁶⁵ After determining what school reform strategies are needed, the cost of implementing these strategies is determined. The "successful school districts" model relies on statistical modeling to analyze resources deployed in school districts that are deemed successful via various performance measures.⁶⁶ The cost to provide resources to all districts to be successful is then determined. Finally, the "cost function" method involves econometric

⁶¹ See SUPERFINE, supra note 5, at 158 (discussing the methodologies underlying cost studies).

⁶² See, e.g., G. GAGE KINGSBURY ET AL., NW. EVALUATION ASS'N, THE STATE OF STATE STANDARDS: RESEARCH INVESTIGATING PROFICIENCY LEVELS IN FOURTEEN STATES 1, 19 (2003), http://www.nwea.org/our-research/state-information (follow "The State of State Standards" hyperlink) (stating that the thirty-sixth percentile on the eighth grade Montana state mathematics test is approximately equivalent to the eighty-ninth percentile on the eighth grade Wyoming state mathematics test); BELLA ROSENBERG, AM. FED'N OF TEACHERS, AFL-CIO, WHAT'S PROFICIENT?: THE NO CHILD LEFT BEHIND ACT AND THE MANY MEANINGS OF PROFICIENCY 9 (2004), http://archive.aft.org/pubs-reports/downloads/teachers/WhatsProficient.pdf ("[T]he states have very different ideas about what it means to be proficient.").

⁶³ See Koski & Reich, supra note 2, at 566–67 ("Currently, four occasionally overlapping methodologies for determining the cost of an adequate education have been employed in the face of school finance litigation"); Rebell, supra note 21, at 1309–12 (summarizing the characteristics of different cost studies).

⁶⁴ See Rebell, supra note 21, at 1309 (indicating that the professional judgment method has been used in at least nineteen states).

⁶⁵ See id. at 1310 (stating that the expert judgment method has been used in only three states as of 2007).

⁶⁶ See id. at 1310-11 (stating that the successful school district method relies on robust data sets linking resources and performance of students and schools, but has only been employed in ten states as of 2007 because many states have not traditionally maintained such data sets).

modeling of the resources a district needs to spend to reach a performance target, given the characteristics of the school district and student body.⁶⁷ This method is arguably the most rigorous of the four methods employed in cost studies, but it requires extensive statewide datasets that are often not available. In addition to entailing different methods, cost studies that employ the same general methods can entail different assumptions that significantly impact the outcomes of the studies. For example, different cost studies employing the "successful school districts" method can include different standards for determining what constitutes a successful district, and these differences can in turn influence recommended increases in financial resources.⁶⁸

Given such differences in the ways that cost studies are conducted, the funding levels recommended to provide students with adequate educations often vary significantly from study to study. The cost studies conducted as part of the recent school finance litigation in New York offer a high-profile example of this issue.⁶⁹ In this litigation, three separate cost studies were conducted that recommended different levels of educational funding. One of the plaintiffs, the Campaign for Fiscal Equity, contracted with a consultant to conduct a study using the "professional judgment" method that recommended \$5.6 billion additional funding annually.⁷⁰ The New York Commission of Education Reform, a group appointed by Governor George Pataki, contracted with Standard and Poor's to conduct a study using the "successful school districts" method that recommended between \$1.9 and \$4.7 billion additional funding annually.⁷¹ The New York State Education

⁶⁷ See id. at 1311-12 (stating that, while this method has been employed in at least one school finance case in Texas, it has largely been employed only in the research setting because the "[s]tatistical analyses involved in these studies are quite complex and often are difficult for policy-makers and the public to understand").

⁶⁸ Ohio constitutes a prime example of how the use of different performance standards can impact successful school district studies. In one such cost study in Ohio, the consultant conducting the cost study used seventeen out of eighteen performance standards in the state and screened out some districts that had extreme values for property value per pupil and median household income. In another study conducted in Ohio a few years later, several new standards were included that had recently been enacted by the state. See Patricia F. First & Barbara M. De Luca, *The Meaning of Educational Adequacy: The Confusion of* DeRolph, 32 J.L. & EDUC. 185, 203 (2003).

⁶⁹ The cost studies in New York were conducted in response to the decision of the state's highest court that the state must ascertain the actual cost of providing a sound basic education in New York City and reform the state's system of school funding accordingly. See Campaign for Fiscal Equity, Inc. v. State, 801 N.E.2d 326, 348–49 (N.Y. 2003).

⁷⁰ See 1 JAY G. CHAMBERS ET AL., AM. INSTS. FOR RESEARCH/MGMT. ANALYSIS & PLANNING, INC., THE NEW YORK ADEQUACY STUDY: DETERMINING THE COST OF PROVIDING ALL CHILDREN IN NEW YORK AN ADEQUATE EDUCATION (2004), http://www.realizethedream.org/programs/docs/ volume-i-finalcostingout3-30-04.pdf.

⁷¹ See Standard & Poor's Sch. Evaluation Servs., Resource Adequacy Study for the New York State Commission on Education Reform (2004), http://www.schoolfunding.info/ states/ny/ny_sp_coststudy_2004.pdf.

Department conducted its own study using the "successful school districts" method that recommended \$5.3 billion additional funding annually.⁷² These reports were all considered by the state's trial-level, intermediate appellate, and highest courts, and each court decided that a different level of funding was appropriate by focusing on the recommendations of a particular report.⁷³ The state's highest court ultimately recommended a minimum of \$1.9 billion additional funding because it represented the minimum "rational" amount.⁷⁴

To courts ruling in school finance cases, and especially those that have embraced the use of standards to help define adequacy, cost studies appear useful for determining in an evidence-based way how much funding is needed to produce students with adequate educations. However, especially given the differing characteristics of cost studies, courts have not employed consistent methods for determining the cost of an adequate education. In this way, courts have highlighted their limited abilities to consider scientific evidence about educational policy and have at least partially reflected the concerns of researchers who fear that the courts cannot act effectively in this field even with better evidence.⁷⁵

D. Ordering the Implementation of Specific Reform Strategies

Although courts have not consistently looked to scientific research conducted by academics across the history of school finance litigation, they have recently begun to attend to more formal educational research than cost studies. Increasingly courts have attended to scientific evidence offered by educational researchers by considering the research base underlying particular educational reform strategies.⁷⁶ As discussed in Part I.A, school finance litigation has dragged on for years in some states, and even where courts have ordered changes in states' funding structures, there has been little indication that such orders consistently augmented students' learning opportunities.⁷⁷ Expressing a desire to prevent decades of litigation and to more directly boost educational quality, some courts have recently begun to consider new strategies in school finance lawsuits.⁷⁸ Instead of focusing

⁷² See N.Y. STATE DEP'T OF EDUC., ESTIMATING THE ADDITIONAL COST OF PROVIDING AN ADEQUATE EDUCATION (2004).

⁷³ See Campaign for Fiscal Equity, Inc. v. State, 861 N.E.2d 50, 56-58 (N.Y. 2006).

⁷⁴ See id. at 59 ("[T]he use of the cost-effectiveness filter is rationally defensible.").

⁷⁵ See Heise, supra note 26, at 2456-61 (discussing courts' institutional limitations to deal with information about the educational process).

⁷⁶ See Koski, supra note 29, at 23 ("[]]udicial remedies are increasingly relying upon research-based educational interventions designed to raise educational achievement.").

⁷⁷ See supra notes 46-49 and accompanying text.

⁷⁸ See, e.g., Campaign for Fiscal Equity, Inc. v. State, 801 N.E.2d 326, 349 (N.Y. 2003), aff'd in part, vacated in part, 861 N.E.2d 50 (stating that the court was attempting to "learn from our national experience and fashion an outcome that will address the constitutional violation

their attention primarily on funding, courts in at least eight states have recently ordered the implementation of standards-based accountability systems,⁷⁹ class size reduction programs,⁸⁰ whole school reforms,⁸¹ and free preschool programs.⁸²

The school finance cases involving the preschool remedy in New Jersey⁸³ and North Carolina⁸⁴ constitute excellent examples of how courts ruling in school finance cases have addressed these types of remedies. In both of these cases, trial court judges heard extensive testimony from educational researchers about the value of preschool and deeply examined the scientific evidence underlying preschool (in addition to examining testimony and evidence about funding).85 These judges then ordered their states to implement free preschool for certain groups of poor or "at-risk" students in order to ensure that these students would receive an adequate education. On one hand, ordering the very specific remedy of free preschool for certain groups of students appears to be a well-targeted response to problems that school finance litigation historically has faced.⁸⁶ This remedy requires funds to be channeled to a promising educational strategy supported by educational research that directly affects students' learning opportunities. Moreover, this approach entails precise orders about what states should do.

On the other hand, the preschool remedy appears to raise some

instead of inviting decades of litigation").

⁷⁹ See, e.g., Hancock v. Driscoll, No. 02–2978, 2004 WL 877984, at *I (Mass. Super. Ct. Apr. 26, 2004); Claremont Sch. Dist. v. Governor, 635 A.2d 1375 (N.H. 1993); Campaign for Fiscal Equity, Inc. 801 N.E.2d at 348–50. At least two courts have construed standards-based reforms as integral to providing adequate educational opportunities to students. See Columbia Falls Elementary Sch. Dist. No. 6 v. State, No. BDV-2002–528, 2004 WL 844055, at *I (Mont. Dist. Ct. Apr. 15, 2004), aff'd in part, vacated in part, 2005 MT 69, 326 Mont. 304, 109 P.3d 257; DeRolph v. State, 728 N.E.2d 993 (Ohio 2000).

⁸⁰ Courts have ordered the implementation of class size reduction programs in at least one case. See Campbell County Sch. Dist. v. State, 907 P.2d 1238 (Wyo. 1995).

⁸¹ Courts have ordered the implementation of whole school reform programs in at least one case. See Abbott v. Burke, 710 A.2d 450 (N.J. 1998).

⁸² Courts have ordered free preschool for children in at least three cases. See id.; Hoke County Bd. of Educ. v. State, No. 95CVS1158, 2000 WL 1639686, at *1 (N.C. Super. Ct. Oct. 12, 2000), aff'd in part, rev'd in part, 599 S.E.2d 365 (N.C. 2004); Abbeville County Sch. Dist. v. State, No. 93-CP-31-0169 (S.C. Ct. Com. Pl. Dec. 29, 2005).

⁸³ See Abbott, 710 A.2d 450.

⁸⁴ See Hoke County. Bd. of Educ., 2000 WL 1639686.

⁸⁵ For example, in the trial court in North Carolina, "[t]he plaintiff parties called 26 witnesses and introduced other testimony by deposition," and the defendants called 17 witnesses. By the time the trial had concluded, the parties had submitted 670 documentary exhibits totaling thousands of pages. *Id.* at $^{\circ}7$.

⁸⁶ See James E. Ryan, A Constitutional Right to Preschool?, 94 CAL. L. REV. 49, 77 (2006) ("[P]reschool may be one of the most cost-effective and efficient inputs that a court could order").

concerns. The research base underlying preschool, especially with regard to the capacity of the program to be effectively implemented at scale, is very complex.⁸⁷ As a result, there is still much about this research base upon which educational researchers have yet to agree.⁸⁸ Moreover, the courts in New Jersey and North Carolina that considered the preschool remedy ignored many of these complexities when they crafted their decisions and remedies, and they considered preschool programs very inconsistently.⁸⁹ For example, while the trial level judge in New Jersey ordered full–day preschool for three and four year olds,⁹⁰ the New Jersey Supreme Court found that half–day preschool school was sufficient.⁹¹ And while the trial court in North Carolina determined that preschool must be implemented in the state to ensure that students receive adequate educations,⁹² the North Carolina Supreme Court found that "a single or definitive means for achieving constitutional compliance . . . has yet to surface from the depths of the evidentiary sea."⁹³

Given both the state of the evidence underlying preschool and the problems courts have faced considering this evidence, there appears to be some cause for concern when courts consider other types of educational interventions in school finance litigation. Compared to the other specific educational reforms ordered in school finance lawsuits, preschool likely has the most extensive research base.⁹⁴ When courts consider the other educational interventions, such as class-size reduction, there is room for courts to act even more inconsistently. So again, although the detailed consideration of scientific evidence seems to hold much promise for making more effective educational funding decisions, courts' limited abilities and dispositions to consider scientific evidence, along with the state of the evidence itself and ambiguous legal frameworks in school finance cases, appear to limit courts' potential to govern educational funding effectively.

⁸⁷ See Benjamin Michael Superfine & Roger D. Goddard, The Expanding Role of the Courts in Educational Policy: The Preschool Remedy and an Adequate Education, 111 TCHRS. C. REC. 1796, 1820 (2009) ("Although preschool appears to be a potentially effective step for providing atrisk students with educational opportunities that can be considered adequate, there is still much about preschool on which education researchers have yet to agree.").

⁸⁸ See id.

⁸⁹ See id. at 1820-23.

⁹⁰ Abbott v. Burke, 710 A.2d 450, 498 (N.J. 1998).

⁹¹ Id. at 464.

⁹² Hoke County Bd. of Educ. v. State, No. 95CVS1158, 2000 WL 1639686, at *102 (N.C. Super. Ct. Oct. 12, 2000), aff'd in part, rev'd in part, 599 S.E.2d 365 (N.C. 2004).

⁹³ Hoke County Bd. of Educ., 599 S.E.2d at 394.

⁹⁴ See Ryan, supra note 86, at 77 ("[T]he research is strong enough to conclude that preschool offers equal or greater benefits than many interventions ordered as part of adequacy cases.").

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E. Educational Research on School Funding

Given the increasing focus in school finance litigation on scientific evidence concerning educational resources, it is critical to examine the state of scientific knowledge in this area. Although many courts ruling in school finance courts have found, or at least assumed without looking deeply at scientific evidence, that increasing funding will increase student performance, educational researchers have argued about the relationship between funding and student performance for decades. In 1966, James Coleman and other researchers released the "Coleman Report," which highlighted the influence that the background characteristics of students and the social composition of schools have on student performance.95 Many researchers have interpreted this report as calling into question the relationship between funding and student performance. In the years following the release of the Coleman Report, high-profile and prestigious educational researchers have debated directly the question of whether "money matters" in schools and have strongly attacked each others' findings on methodological grounds.⁹⁶ While even the most ardent critics of the notion that there is a strong relationship between funding and student performance have more recently concluded that money likely matters if it is spent wisely,⁹⁷ Professor Raudenbush, a highly respected educational researcher, has also argued that our knowledge about how to use educational resources is "woefully lacking."98

The debate on the validity of cost studies underscores the marked lack of consensus about the relationship between educational funding and student performance. As discussed above, several courts and legislatures have ordered and relied on cost studies for making decisions about educational funding.⁹⁹ Moreover, as the school finance expert Professor

⁹⁵ See COLEMAN ET AL., supra note 26.

⁹⁶ For arguments that money does not matter, see Eric A. Hanushek, *The Impact of Differential Expenditures on School Performance*, EDUC. RESEARCHER, May 1989, at 45, 49 (conducting a meta-analysis of school finance studies); Eric A. Hanushek, *Money Might Matter Somewhere: A Response to Hedges, Laine, and Greenwald*, EDUC. RESEARCHER, May 1994, at 5, 8 (defending a meta-analysis of school finance studies). For arguments that money does matter, see Larry V. Hedges et al., *Does Money Matter? A Meta-Analysis of Studies of the Effects of Differential School Inputs on Students Outcomes*, EDUC. RESEARCHER, April, 1994, at 5, 13 (conducting a meta-analysis of school finance studies); Larry V. Hedges et al., *Money Does Matter Somewhere: A Reply to Hanushek*, EDUC. RESEARCHER, May 1994, at 9, 10 (defending a meta-analysis of school finance studies).

⁹⁷ See, e.g., Eric A. Hanushek, The Quest for Equalized Mediocrity: School Finance Reform Without Consideration of School Performance, in WHERE DOES THE MONEY GO? RESOURCE ALLOCATION IN ELEMENTARY AND SECONDARY SCHOOLS 20, 37–8, (Lawrence O. Picus & James L. Wattenbarger eds., 1996) (stating that "money spent wisely, logically, and with accountability would be very useful indeed").

⁹⁸ See Raudenbush, supra note 22, at 26.

⁹⁹ See supra notes 59-74 and accompanying text.

Verstegen argues: "Cost studies provide a rational basis for determining the amount of funding necessary for all children to have a meaningful opportunity for an adequate education. They raise the level of discussion and are a vast improvement over the political decision making and residual budgeting practices of the past."¹⁰⁰ But several researchers have strongly criticized the methods employed in cost studies and even have labeled them as unscientific and politicized.¹⁰¹

Similarly, there is very little consensus about the cost-effectiveness of popular educational reform strategies. For example, a recent report published by the RAND Corporation found that preschool and class size reduction programs were related to increases in student performance on the NAEP.¹⁰² However, educational researchers have directly attacked the methodology of this report.¹⁰³ Indeed, while some "model" programs—such as preschool programs implemented with unusually high levels of resources and staff expertise—have been found to be effective for boosting students' learning opportunities, it is very difficult to scale up such programs because similar levels of resources and expert staff are not widely available.¹⁰⁴ Moreover, while researchers have underscored that we are learning more about the various types of strategies that can increase educational opportunities,¹⁰⁵ researchers have also emphasized that there are few studies analyzing cost effectiveness or the comparative cost–efficiency of such strategies.¹⁰⁶ As a

102 See David Grissmer et al., Improving Student Achievement: What State NAEP Test Scores Tell Us, at xxv, xxvi, 23 (2000).

103 See Eric A. Hanushek, Deconstructing RAND, EDUC. MATTERS, Spring 2001, at 66, 66– 67 (2001) (reviewing GRISSMER ET AL., *supra* note 102) (criticizing that much of the important data in the RAND report is aggregated at the state level).

104 See Janet Currie, Early Childhood Intervention Programs: What Do We Know? 10-24 (Nat'l Science Found., Working Paper No. 169, 2000) (citing the Abcedarian Project and the Perry Preschool Program as model programs, but also discussing problems with scaling up such programs).

105 See Diana Pullin, Ensuring an Adequate Education: Opportunity to Learn, Law, and Social Science, 27 B.C. THIRD WORLD L.J. 83, 113-14 (2007) (stating that we now know more about students' opportunities to learn, instructional leadership, and "what educators need to know and be able to do").

106 See Patrice Iatrola & Norm Fruchter, An Alternative Method for Measuring Cost-Effectiveness: A Case Study of New York City's Annenberg Challenge Grant, 31 J. EDUC. FIN. 276, 276 (2006) ("[N]either policymakers nor researchers habitually use analyses measuring school reform cost-effectiveness.").

¹⁰⁰ Deborah A. Verstegen, Has Adequacy Been Achieved? A Study of Finances and Costs a Decade After Court-Ordered Reform, 32 J. EDUC. FIN. 304, 309 (2007) (examining the historical impact of school finance reform litigation and modern trends in this litigation).

¹⁰¹ See William Duncombe, Responding to the Charge of Alchemy: Strategies for Evaluating the Reliability and Validity of Costing-Out Research, 32 J. EDUC. FIN. 137, 138 (2006) (arguing that costing out research "should move away from the advocacy environment to the realm of social science research, where methods can be evaluated without pressure to produce only one answer"); Greene & Trivitt, *supra* note 48, at 227 ("Refutation of the validity of [cost study] techniques has been ably done in previous work.").

result, several prominent educational researchers have argued that we need a significantly better research base for constructing productive educational policy.¹⁰⁷ So, although courts in school finance litigation have begun to become more sensitive to the value of scientific evidence for making decisions about educational funding, both their limitations in considering scientific research effectively and the character of the extant research itself have failed to support consistently effective decision–making when courts have actually looked to scientific research.

II. THE ELEMENTARY AND SECONDARY EDUCATION ACT

A. History

Since the ESEA was enacted in 1965 as part of the Johnson administration's War on Poverty, it has constituted the flagship piece of federal legislation aimed at increasing the educational opportunities for poor and minority students. In its original form, Title I of the ESEA provided a little over \$1 billion¹⁰⁸ to improve local schools' educational programs that "contribute[d] particularly to meeting the special educational needs of educationally deprived children."¹⁰⁹ In terms of funding, the program has been the largest educational program ever administered by the federal government,¹¹⁰ and both President Johnson and Congress believed that it would eliminate much of the achievement gap.¹¹¹

While Title I has been hailed as a historic measure to increase educational opportunities for poor and minority students, the ways in which Title I funds have been distributed and used have come under heavy attack since the law's original passage. Soon after its enactment, researchers found that Title I funds were used for improper purposes, such as buying color televisions,

¹⁰⁷ See James W. Guthrie, Next Needed Steps in the Evolution of American Education Finance and Policy: Attenuating a Judicially Imposed Policy Distraction, Activating a Balanced Portfolio of K-12 School Reforms, Advancing Rationality as a Goal in Pursuing Productivity, Advocating Change in a Responsible and Effective Manner, 83 PEABODY J. EDUC. 259, 278 (2008) (decrying the "absence of empirical research findings that could compose a technical base for which to construct productive education policy"); Charles Clotfelter et al., High-Poverty Schools and the Distribution of Teachers and Principals, 85 N.C. L. REV. 1345, 1378 (2007) ("More experimentation and evaluation... are clearly needed if good policies are to be developed....").

¹⁰⁸ EUGENE EIDENBERG & ROY D. MOREY, AN ACT OF CONGRESS: THE LEGISLATIVE PROCESS AND THE MAKING OF EDUCATION POLICY 247 (1969).

¹⁰⁹ See Elementary and Secondary Education Act of 1965, Pub. L. No. 89-10, 79 Stat. 27 (1965).

¹¹⁰ See Peter Zamora, Note, In Recognition of the Special Educational Needs of Low-Income Families?: Ideological Discord and Its Effects upon Title I of the Elementary and Secondary Education Acts of 1965 and 2001, 10 GEO. J. ON POVERTY L. & POLY 413, 415 (2003).

¹¹¹ Maris A. Vinovskis, Do Federal Compensatory Education Programs Really Work? A Brief Historical Analysis of Title I and Head Start, 107 AM. J. EDUC. 187, 189 (1999).

instead of enhancing schools' instructional programs.¹¹² Studies such as the Coleman Report that investigated the relationship between school funding and student performance have consistently cast doubt on the efficacy of Title I.¹¹³ As Title I was initially implemented, many school systems used the program as a simple funding scheme without robust requirements for how funds should be used, and the quality of funded programs varied considerably in the years after its passage.¹¹⁴ Reports released in the 1970s also found little evidence that Title I funds significantly increased educational opportunities for poor and minority students.¹¹⁵ While Title I was modified in the 1980s to increase financial accountability and to focus on teaching basic skills in "pull out" classes, strong doubts about its efficacy remained.¹¹⁶

In response to such concerns and the political push to focus on more academically demanding work in the 1980s, Congress fundamentally restructured Title I.¹¹⁷ In 1988, Congress passed the Hawkins–Stafford amendments to the ESEA, which signaled the beginning of the federal effort to hold states accountable for the use of Title I funds by requiring states to collect and publish student test scores.¹¹⁸ In 1994, during the Clinton administration, Congress built on the standards–based reform movement emerging in the states and passed the Goals 2000: Educate America Act (Goals 2000), which provided grants to states to develop their own standards and assessment systems linked to standards.¹¹⁹ This law was enacted before Congress passed the Improving America's Schools Act (IASA),¹²⁰ a reauthorization of the ESEA, for which Goals 2000 provided

¹¹² See WASH. RESEARCH PROJECT & NAACP LEGAL DEF. AND EDUC. FUND, INC., TITLE I OF ESEA: IS IT HELPING POOR CHILDREN? 57 (1969) (criticizing the administration of Title I).

¹¹³ See COLEMAN ET AL., supra note 26 and accompanying text.

¹¹⁴ See MILBREY WALLIN MCLAUGHLIN, EVALUATION AND REFORM: THE ELEMENTARY AND SECONDARY EDUCATION ACT OF 1965, TITLE I 24–27 (1975) (discussing evaluations and modifications of the ESEA).

¹¹⁵ See infra notes 189-90 and accompanying text.

¹¹⁶ See Jennings, supra note 8, at 12-16.

¹¹⁷ The publication of A Nation at Risk, written by a federally appointed panel, focused national attention on the quality of work students completed and deficiencies in the nation's educational system. See NAT'L COMM'N ON EXCELLENCE IN EDUC., A NATION AT RISK: THE IMPERATIVE FOR EDUCATIONAL REFORM 5 (1983) ("[T]he educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people.").

¹¹⁸ See Augustus F. Hawkins-Robert T. Stafford Elementary and Secondary School Improvement Amendments of 1988, Pub. L. No. 100–297, § 1019, 102 Stat. 130, 163–64 (1988).

¹¹⁹ See Goals 2000: Educate America Act, Pub. L. No. 103-227, § 308, 108 Stat. 125, 168 (1994).

¹²⁰ See Improving America's Schools Act of 1994, Pub. L. No. 103-382, 108 Stat. 3518 (1994).

a standards-based framework for the IASA – the IASA conditioned the receipt of Title I funds on states' development of standards, assessments, and accountability systems in each state.¹²¹ Together, these laws were to ensure that federal funds would be spent more effectively by tying them to specific visions of the skills and knowledge that students should acquire, and by holding schools accountable for their performance. While both Goals 2000 and the IASA faced serious implementation problems and did not clearly increase student achievement or close the achievement gap, they signaled a definitive new federal role in the funding of educational programs.¹²²

B. No Child Left Behind

In early 2002 and at the beginning of President George W. Bush's first term in office. Congress reauthorized the ESEA vet again with the passage of NCLB. According to its statutory text, the purpose of NCLB is "to ensure that all children have a fair, equal, and significant opportunity to obtain a high-quality education and reach, at a minimum, proficiency on challenging State academic achievement standards and state academic assessments."123 Both prior to and after NCLB was enacted, its supporters repeatedly framed the law not only as a tool for augmenting educational quality, but also for making education more efficient-as Secretary of Education Roderick Paige stated, "We can't turn a blind eye to those who are not' scoring well ... '[n]or can we turn a blind eye to the failure of Title I money to improve our schools."¹²⁴ To this end, NCLB further embraced the principles of standards, assessment, and accountability that had emerged in laws such as Goals 2000 and the IASA to enhance the effectiveness and efficiency of the Title I funding scheme. Indeed, these principles built on business principles trumpeted by President Bush during his efforts to reform education as governor of Texas.¹²⁵ NCLB accordingly conditioned states' receipt of Title I funds on states' agreements to adopt standards¹²⁶

¹²¹ See Improving America's Schools Act § 1111(b).

¹²² See Benjamin Michael Superfine, The Politics of Accountability: The Rise and Fall of Goals 2000, 112 AM. J. EDUC. 10, 19–28 (2005) (discussing the implementation problems faced by both Goals 2000 and the IASA, such as the failure to build capacity in state departments of education and districts).

^{123 20} U.S.C. § 6301 (2006).

¹²⁴ Michael A. Fletcher, Test Shows Wider Gap in Reading Skills, WASH. POST, Apr. 7, 2001, at A2.

¹²⁵ See Andrew Rudalevige, No Child Left Behind: Forging a Congressional Compromise, in No Child Left Behind?: The Politics and Practice of School Accountability 23, 34–36 (Paul E. Peterson & Martin R. West eds., 2003).

¹²⁶ See 20 U.S.C. § 6311(b)(1)(C) (2006) (stating that states must adopt "academic standards for all public elementary school and secondary school children . . . in subjects determined by the State, but including at least mathematics, reading or language arts, and . . .

and assessments aligned with these standards,¹²⁷ and aimed to hold schools and districts accountable for their performance on these assessments.¹²⁸

NCLB particularly required states to adopt standards in reading, mathematics, and science¹²⁹ that describe at least three levels of student achievement—basic, proficient, and advanced.¹³⁰ Tests in these subjects currently must be administered at least once annually to students in grades three through eight, and once in high school.¹³¹ States must publicly report the results of student performance on these tests for every school and disaggregate the student performance data by certain subgroups, such as economically disadvantaged students, students from major racial and ethnic groups, students with disabilities, and students with limited English proficiency.¹³² States must also require schools receiving Title I funds to make "adequate yearly progress" (AYP).¹³³ Under NCLB, states are given much latitude to decide for themselves what constitutes AYP, but the law requires that the annual increase must include separate objectives for all subgroups of students¹³⁴ and that all students must be proficient by 2014.¹³⁵

When schools fail to make AYP, they face a range of possible sanctions. If a school fails to make AYP for two consecutive years, it is identified for school improvement,¹³⁶ and the district in which the school is located must provide all students enrolled in the school with the option to transfer to another public school in the district.¹³⁷ If a school fails to make AYP the following year, it must offer supplemental educational services to all of its students.¹³⁸ If a school fails to make AYP for a fourth consecutive year, it is identified for corrective action and must plan to institute at least one out of six reforms delineated in NCLB, such as decreasing management authority

131 See id. § 6311(b)(3)(C)(vii).

science").

¹²⁷ See 20 U.S.C. § 6311(b)(3)(A) (stating that states must implement "a set of high-quality, yearly student academic assessments that include, at a minimum, academic assessments in mathematics, reading or language arts, and science").

¹²⁸ As discussed *infra* notes 133-40 and accompanying text, states must determine whether schools have made "adequate yearly progress" in student performance. See 20 U.S.C. $\frac{6}{3} \frac{6}{11} \frac{1}{20}$.

¹²⁹ See 20 U.S.C. § 6311(b)(1)(C). Reading and mathematics standards must have been adopted by the beginning of the 2002-2003 school year, and science standards must have been adopted by the beginning of the 2005-2006 school year.

¹³⁰ See id. § 6311(b)(1)(D)(ii)(II)-(III).

¹³² See id. § 6311(b)(2)(C)(v).

¹³³ See id. § 6311(b)(2)(A).

¹³⁴ See id. § 6311(b)(2)(C)(v).

¹³⁵ See id. § 6311(b)(2)(F).

¹³⁶ See id. § 6316(b)(1)(A).

¹³⁷ See id. § 6316(b)(1)(E).

¹³⁸ See id. § 6316(b)(5)(B).

at the school level.¹³⁹ If the school continues to fail to make AYP while in corrective action, it must implement at least one out of five even more demanding reforms, such as replacing all or most of the school's staff.¹⁴⁰

Although the primary focus of NCLB is on measuring and holding schools accountable for their performance, the law devotes some attention to increasing schools' capacities to improve student achievement. NCLB required states to place a "highly qualified" teacher in every public school classroom where core subjects taught by the end of the 2005–06 school year.¹⁴¹ NCLB also allows the U.S. Department of Education (ED) to provide states with grants to implement sanctions, and, in turn, for states to provide sub–grants to districts.¹⁴² Moreover, NCLB provides that states must establish a "system of intensive and sustained support"¹⁴³ for improving schools, provide support to districts with schools that have failed to make AYP, and create "school support teams" to help such schools.¹⁴⁴ Perhaps most notably, NCLB aims at ensuring that high quality support is provided to schools by requiring several programs to be based on "scientifically–based research."¹⁴⁵

Since NCLB was passed, it has faced several implementation problems. For example, the quality of standards markedly differs across states and is sometimes quite low,¹⁴⁶ and critics have attacked states' methods for determining AYP.¹⁴⁷ Individual sanctions resulting from schools' failures to make AYP, such as instituting public school choice and supplemental services, have proven difficult for schools and districts to implement effectively.¹⁴⁸ Additionally, schools have found it very difficult to ensure that they make AYP as the bar continually rises.¹⁴⁹ As a result, NCLB

145 See infra notes 162-79 and accompanying text.

146 See G. GAGE KINGSBURY ET AL., supra note 62, at 26 (analyzing the quality of state standards through use of the NAEP).

147 See, e.g., U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-04-734, NO CHILD LEFT BEHIND ACT: IMPROVEMENTS NEEDED IN EDUCATION'S PROCESS FOR TRACKING STATES' IMPLEMENTATION OF KEY PROVISIONS 1-38 (2004).

148 See CTR. ON EDUC. POL'Y, FROM THE CAPITAL TO THE CLASSROOM: YEAR 4 OF THE NO CHILD LEFT BEHIND ACT 117 (2006), available at http://www.cep-dc.org/_data/global/nidocs/ CEP-NCLB-Report-4.pdf (citing implementation problems such as the limited number of receiving schools and lack of parental interest in changing schools); U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-05-7, NO CHILD LEFT BEHIND ACT: EDUCATION NEEDS TO PROVIDE ADDITIONAL TECHNICAL ASSISTANCE AND CONDUCT IMPLEMENTATION STUDIES FOR SCHOOL CHOICE PROVISION 19 (2004) (citing implementation problems such as short timeframes for making transfer decisions).

149 See CTR. ON EDUC. POL'Y, supra note 148, at 56 ("[A]pproximately 14,121 schools did

¹³⁹ See id. § 6316(b)(7)(C)(iv).

¹⁴⁰ See id. § 6316(b)(8)(B).

¹⁴¹ See id. § 6319(a)(2).

¹⁴² See id. § 6303(g)(1).

¹⁴³ See id. § 6317(a)(1).

¹⁴⁴ Id. § 6317(a)(4)-(5).

has come under heavy political attack from various states and politicians concerned about the difficulty of complying with the law's requirements,¹⁵⁰ and NCLB has been the focus of several lawsuits aimed at mitigating its impact.¹⁵¹

Given the stated intention of NCLB to enhance the effectiveness and efficiency of federal funds spent on education, critiques of NCLB ironically have focused on the high expenditures created by the law. When NCLB was enacted, the discretionary budget of ED was increased by the largest percentage in its history,¹⁵² and Title I funds were authorized at their highest levels as well.¹⁵³ And although NCLB includes the "Unfunded Mandates Provision," which prohibits federal officers or employees from mandating states and localities spend funds for costs not paid for by NCLB,¹⁵⁴ several politicians and observers have criticized NCLB for being "unfunded." For example, Reg Weaver, the former President of the National Education Association (NEA), called NCLB "the granddaddy of all underfunded federal mandates."155 Following this criticism, the NEA sued ED in Pontiac v. Spellings primarily for its failure to comply with the Unfunded Mandates Provision.¹⁵⁶ While the Sixth Circuit Court of Appeals found that the language of the Unfunded Mandates Provision could support the NEA's argument, the case has been remanded to a district court and has not been fully resolved as of the writing of this Article.¹⁵⁷ Importantly, the term

151 See SUPERFINE, supra note 5, at 88 (arguing that NCLB-related litigation focuses "on the implementation of [] accountability sanctions, ... the justifiability of student and school performance determinations, ... [and the] capacities possessed by various entities to respond to NCLB requirements").

152 See Joetta L. Sack, Federal Spending Burst Nudges Up Uncle Sam's Share, EDUC. WK., Feb. 13, 2002, at 30, 36 (stating that the discretionary budget for ED rose by 85% from fiscal 1997 to fiscal 2002).

153 See id.

155 Bess Keller, NEA Seeks Allies to Bring Lawsuit on ESEA Funding, EDUC. WK., Aug. 6, 2003, at 1, 22–23 (discussing the history of a lawsuit based on the Unfunded Mandates Provision of NCLB).

156 See Sch. Dist. of Pontiac v. Spellings, No. 05-CV-71535-D, 2005 WL 3149545, at *1 (E.D. Mich. Nov. 23, 2005), rev'd, Sch. Dist. of Pontiac v. Sec'y of U.S. Dep't of Educ., 512 F.3d 252 (6th Cir. 2008), reh'g en banc granted, opinion vacated, May 1, 2008.

157 See Sec'y of U.S. Dep't of Educ., 512 F.3d at 272-73.

not make AYP based on 2004–05 testing. This amounts to just under 16% of all public schools nationwide.").

¹⁵⁰ See, e.g., NAT'L EDUC. ASS'N, STATE LEGISLATIVE WATCH LIST: 21 STATES SEEK CHANGES TO 'NO CHILD LEFT BEHIND' (2005), http://web.archive.org/20071012165204/http://www.nea. org/lawsuit/stateres.html (stating that bills or regulations to opt out of or limit NCLB funding were introduced in at least 21 states).

^{154 20} U.S.C. § 7907(a) (2006) ("Nothing in this chapter shall be construed to authorize an officer or employee of the Federal Government to mandate, direct, or control a State, local educational agency, or school's curriculum, program of instruction, or allocation of State or local resources, or mandate a State or any subdivision thereof to spend any funds or incur any costs not paid for under this chapter.").

"unfunded" has been used in the criticisms of NCLB in multiple ways, and critics rarely have defined this term precisely when they use it. For example, while some have used "unfunded" to refer to the costs of enacting the new administrative infrastructure required by NCLB (to implement testing requirements, sanctions, etc.), others have used the term to refer to the costs of ensuring that students reach proficiency on NCLB tests.¹⁵⁸ Indeed, the Sixth Circuit's opinion in *Pontiac* did not clearly indicate which definition of unfunded should be used on remand.¹⁵⁹ The lack of clarity about this term muddies discussions about the problems NCLB has raised, and, in a sense, turns initial assumptions about increasing the efficiency of Title I on their head. Instead of being seen as a vehicle for increasing the effectiveness and efficiency of Title I funds, NCLB is now largely seen as a mandate that dramatically increases the cost of education.

While implementing NCLB's administrative infrastructure may constitute a large investment that ultimately results in the more effective use of federal funds, discussions regarding the amount of money it would take to ensure that students reach proficiency seem to be based on pre-NCLB notions of the relationship between funding and student performance. These discussions do not seem to take into account the potential for NCLB's accountability sanctions to encourage schools to use their resources more effectively over time. Still, as discussed below, the fundamental position that NCLB is not well designed to enhance the effectiveness of federal funds or ultimately students' opportunities to learn is a strong one.¹⁶⁰ So, although NCLB was initially intended to ensure that federal funds are deployed more effectively and efficiently, its critics have attacked NCLB as a tool unsuited for accomplishing this task and have highlighted the large financial burden imposed by the law.¹⁶¹ Moreover, disagreements about the potential of NCLB to enhance the effectiveness of federal funds underscore the lack of consensus about how educational resources can be deployed to increase school quality and students' learning opportunities.

C. "Scientifically-Based Research" in Title I

Although NCLB focuses on reforming education by holding schools accountable for improving student achievement, congressional modifications of Title I under NCLB did not merely involve accountability. In response to concerns about the perceived lack of strong evidence for making educational

¹⁵⁸ See William J. Mathis, The Cost of Implementing the Federal No Child Left Behind Act: Different Assumptions, Different Answers, 80 PEABODY J. EDUC. 90, 94 (2005) (examining different ways to assess whether NCLB is unfunded).

¹⁵⁹ See Sec'y of U.S. Dep't of Educ., 512 F.3d at 272-73.

¹⁶⁰ See infra notes 196-212 and accompanying text.

¹⁶¹ See supra notes 152-55 and accompanying text.

policy decisions, Congress has also directly regulated and even defined the use of "scientifically-based research" (SBR) in Title I.¹⁶² The phrase SBR appears in NCLB 111 times to describe the evidence that must underlie a range of programs, including those involving reading, teacher training, drug prevention, and school safety.¹⁶³ Congress first addressed the substantive content of instructional programs in the 1988 reauthorization of the ESEA by encouraging the adoption of research-validated "effective school programs."¹⁶⁴ In 1994, Congress tightened its regulation of instruction by requiring Title I recipients to use "effective instructional strategies," and in the Comprehensive School Reform Demonstration Program enacted in 1998, Congress required evidence of effectiveness for the adoption of comprehensive school reform programs.¹⁶⁵

Title I of NCLB represents a further tightening of federal regulation regarding the content of instructional programs and the quality of evidence that must underlie them. In order to guide evaluations about whether particular programs are supported by SBR, NCLB indicates that SBR means "research that involves the application of rigorous, systematic, and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs."¹⁶⁶ NCLB further emphasizes that SBR employs experimental or quasi–experimental designs, with a "preference for random–assignment experiments."¹⁶⁷ Clarifying these requirements, ED published a guide that included a step–by–step process, focusing on the quality and quantity of studies on educational programs, to help recipients of Title I funds decide whether programs are adequately supported by SBR.¹⁶⁸ Reflecting the definition of SBR in the ESEA, this guide also highlighted the importance of randomized controlled studies.¹⁶⁹

168 See U.S. DEP'T OF EDUC., IDENTIFYING AND IMPLEMENTING EDUCATIONAL PRACTICES SUPPORTED BY RIGOROUS EVIDENCE: A USER FRIENDLY GUIDE v (2003).

¹⁶² See COWAN WITH EDWARDS, supra note 20, at 125 (stating that the phrase was added "[a]t the behest of the Bush administration, ... [which believed] that a lot of existing education research, and the instruction based on it, lack[ed] genuine scientific validation.").

¹⁶³ See Frederick M. Hess & Michael J. Petrilli, No Child Left Behind: Primer 94 (2006).

¹⁶⁴ See COWAN WITH EDWARDS, supra note 20, at 125.

¹⁶⁵ See id.

^{166 20} U.S.C. § 6368(6)(A) (2006) (SBR means "research that... applies rigorous, systematic, and objective procedures to obtain valid knowledge relevant to reading development, reading instruction, and reading difficulties.").

¹⁶⁷ Id. § 7801(37)(B)(iv) (stating that scientifically based research includes research that "is evaluated using experimental or quasi-experimental designs in which individuals, entities, programs, or activities are assigned to different conditions and with appropriate controls to evaluate the effects of the conditions of interest, with a preference for random-assignment experiments, or other designs to the extent that those designs contain within-condition or across-condition controls").

¹⁶⁹ For example, the guide indicated that an educational intervention is supported by rigorous or "strong" evidence when relevant studies involve "[r]andomized controlled trials

Congress has also prominently inserted provisions regulating SBR into Reading First, a program authorized under NCLB that provides grants to states to implement reading programs for students in kindergarten through third grade.¹⁷⁰ Under Reading First, states apply to ED for grants, which are then distributed to local education agencies (LEAs) through a competitive sub-grant process.¹⁷¹ These grants are primarily to be used for the implementation of reading programs based on "scientifically based reading research" (SBRR)¹⁷² and to provide assistance to states and districts for implementing professional development,¹⁷³ administering assessments,¹⁷⁴ and developing instructional materials and strategies.¹⁷⁵ Reading First particularly requires that grantees base their programs on five "essential components of reading instruction": phonemic awareness, phonics, vocabulary development, reading fluency, and reading comprehension strategies, which are allegedly grounded in SBRR.¹⁷⁶ Despite the focus on limiting the programs for which federal funds can be used, Title I does not permit ED to require the implementation of particular instructional programs or curricula,¹⁷⁷ and the authorizing legislation of ED similarly forbids ED from prescribing particular curricula.¹⁷⁸ In contrast to other requirements involving SBR throughout NCLB, Reading First provisions have been enforced strictly since its enactment.¹⁷⁹

172 20 U.S.C. § 6368(6). NCLB defines "scientifically based reading research" as research that "(A) applies rigorous, systematic, and objective procedures to obtain valid knowledge relevant to reading development, reading instruction, and reading difficulties; and (B) includes research that (i) employs systematic, empirical methods that draw on observation or experiment; (ii) involves rigorous data analyses that are adequate to test the stated hypotheses and justify the general conclusions drawn; (iii) relies on measurements or observational methods that provide valid data across evaluators and observers and across multiple measurements and observations; and (iv) has been accepted by a peer-reviewed journal or approved by a panel of independent experts through a comparably rigorous, objective, and scientific review."

- 173 Id. § 6301(10).
- 174 Id. § 6301(6).
- 175 Id. § 6301(1).
- 176 Id. § 6368(3).

177 See id. § 7909 ("[N]o funds provided to the Department under this Act... may be used by the Department to to develop, pilot test, field test, implement, administer, or distribute any federally sponsored national test in reading, mathematics, or any other subject, unless specifically and explicitly authorized by law.").

178 See id. § 1232(a).

179 See CTR. ON EDUC. POL'Y, supra note 148, at 29 (stating that, in 2005, forty-four states indicated that the provisions regarding the Reading First instructional programs were being implemented strictly or very strictly).

^[] that are well-designed and implemented[,]... [and these] [t]rials show[] effectiveness in [t]wo or more typical schools settings." *Id.*

¹⁷⁰ See 20 U.S.C. §§ 6301-6511 (2006).

¹⁷¹ See U.S. DEP'T OF EDUC., READING FIRST FORMULA GRANT PROCESS I (2008), available at www.ed.gov/programs/readingfirst/index.html (describing the process for applying for Reading First grants and distributing Reading First funds).

Like other parts of NCLB, however, Reading First has generated significant political and legal controversy. In response to charges that ED selected a grant application review panel that had conflicts of interest, and that the panel failed to adhere to criteria in NCLB for awarding grants, the Office of the Inspector General (OIG) at ED launched an investigation into the implementation of the program.¹⁸⁰ The OIG found that ED "obscured the statutory requirements" of Reading First and "took actions that call into question whether [the panel] violated the prohibitions" against curricular specification in ED's authorizing legislation.¹⁸¹ The OIG particularly found that ED did not create "the balanced panel [] envisioned by Congress," improperly "[i]ntervened to influence a [s]tate's selection of reading programs," and improperly "[i]ntervened to influence reading programs being used by [] LEAs after the application process was completed."¹⁸² As a result, it appears that panel members awarded large grants to reading program providers with which they had significant professional connections.¹⁸³ Members of Congress have accordingly held hearings on the implementation of Reading First, and Rep. George Miller (D-CA) stated that "we know of examples where states were essentially bullied to use these products in order to receive Reading First money."184 So, although the recent focus on SBR in NCLB ostensibly represents an attempt to ensure that scientific evidence drives Title I funding decisions, the SBR provisions have served as an entranceway for bare political influence on these decisions.

D. Educational Research on Title I

Given the quickly expanding federal role in education and Congress' increasing focus on Title I as a tool for increasing the effectiveness and efficiency of educational resources, it is critical to examine the state of scientific knowledge in this area as well. As discussed above, several studies (of which the Coleman Report was the first to be widely recognized) cast doubt on the efficacy of simply increasing educational funding to improve the performance of schools and students.¹⁸⁵ Studies that have broadly

¹⁸⁰ See OFFICE OF INSPECTOR GEN., U.S. DEP'T OF EDUC., ED-OIG/I13-F0017, THE READING FIRST PROGRAM'S GRANT APPLICATION PROCESS: FINAL INSPECTION REPORT 1 (2006), available at http://www2.ed.gov/about/offices/list/oig/aireports/i13f0017.pdf (discussing an investigation into the improper implementation of Reading First).

¹⁸¹ Id. at 2.

¹⁸² Id.

¹⁸³ See id. at 29.

¹⁸⁴ Press Release, Comm. on Educ. & Labor, U.S. House of Representatives, Corruption in Reading First Program Shows Need for Additional Safeguards in the Law (Apr. 20, 2007), *available at* http://www.house.gov/apps/list/speech/edlabor_dem/rel042007rf.html.

¹⁸⁵ See supra note 26 and accompanying text.

examined the relationship between funding and student achievement have also continually fueled concerns about the efficacy of the Title I funding scheme to improve educational opportunities for poor and minority students.¹⁸⁶

Several studies conducted specifically on the implementation of Title I have also provided reason for concern that Title I funds have not been used effectively or efficiently. In addition to other reports conducted within the first few years of the enactment of Title I which indicated that funds had been spent for improper purposes,¹⁸⁷ the 1968 "TEMPO" investigation found that "pupil achievement tended to decline in Title I schools and that schools with 40-60 percent black student enrollments showed the poorest response to [Title I]."188 The "Sustaining Effects Study," conducted by the System Development Corporation in the 1970s, reinforced concerns about the efficacy of Title I funds to significantly improve students' educational opportunities or close the achievement gap.¹⁸⁹ Indeed, although generally less rigorous than the Sustaining Effects Study, other early evaluations of Title I yielded similar conclusions about the efficacy of Title I funds to improve students' educational opportunities.¹⁹⁰ While no national evaluations of Title I were conducted in the 1980s, the "Prospects" study (released in 1997) had similar results-this study found that, while Title I funds may have provided some small help to poor and minority students, these funds were insufficient to reduce the achievement gap, and most "at-risk" students did not master the reading and mathematics skills and knowledge expected for their grade level.¹⁹¹

While Goals 2000, the IASA, and NCLB were aimed particularly at increasing the effectiveness of federal funds by tying Title I funding to the implementation of standards– and accountability–based reforms, educational research has yielded mixed evaluations of these laws. For example, while standards–based reforms generally appear to have resulted in some changes in teachers' instructional practices and their students' opportunities to learn,¹⁹² these changes have not been consistent.¹⁹³ Similar

¹⁸⁶ See Ellen Condliffe Lagemann, An Elusive Science: The Troubling History of Education Research 203 (2000).

¹⁸⁷ See WASH. RESEARCH PROJECT & NAACP LEGAL DEF. AND EDUC. FUND, INC., supra note 112 and accompanying text.

¹⁸⁸ LAGEMANN, supra note 186, at 203.

¹⁸⁹ See Vinovskis, supra note 111, at 190 (discussing evaluations of Title I).

¹⁹⁰ See id.

¹⁹¹ MICHAEL J. PUMA ET AL., ABT ASSOCS. INC., PROSPECTS: FINAL REPORT ON STUDENT OUTCOMES VI (1997).

¹⁹² See DAVID K. COHEN & HEATHER C. HILL, LEARNING POLICY: WHEN STATE EDUCATION REFORM WORKS 123 (2001) (discussing the implementation of standards-based reform in California in the 1990s).

¹⁹³ See Andrew C. Porter, Measuring the Content of Instruction: Uses in Research and Practice, EDUC. RESEARCHER, Oct. 2002, at 3, 3 (discussing the measurement of instruction and align-

findings appeared in studies examining the effectiveness of accountability systems for boosting student achievement. For example, upon the examination of test results in North Carolina and Texas, both of which instituted strong accountability systems in the 1990s, researchers found that students made much more progress between 1992 and 1996 than students in other states.¹⁹⁴ However, focusing on issues such as the Scholastic Aptitude Test (SAT) scores and test construction, some researchers have concluded that the gains in Texas were nothing more than a myth.¹⁹⁵

In addition to such mixed evaluations of standards-based reform and accountability systems, NCLB has faced particular implementation problems that have cast doubt on its potential to increase the efficiency of federal action.^{1%} The law has faced significant problems related to the implementation of its core provisions, including those governing standards,¹⁹⁷ testing,¹⁹⁸ AYP,¹⁹⁹ and sanctions such as public school choice²⁰⁰ and supplemental educational services.²⁰¹ As noted above, many have labeled NCLB an unfunded mandate, and while this term is vague, several studies indicate that significantly more funding is needed, in addition to the recent increases in Title I funding, in order to implement at least the

196 For a detailed discussion of the problems NCLB and standards-based reforms have faced, see SUPERFINE, *supra* note 5, at 51-60.

197 See, e.g., ROSENBERG, supra note 62, at 9 (arguing that the quality of state standards dramatically differs).

ment with standards); James P. Spillane & Nancy E. Jennings, *Aligned Instructional Policy and Ambitious Pedagogy: Exploring Instructional Reform from the Classroom Perspective*, 98 TCHRS. C. REC. 449, 478 (1997) (analyzing the alignment of instructional practices with standards).

¹⁹⁴ See Martin Carnoy & Susanna Loeb, Does External Accountability Affect Student Outcomes? A Cross-State Analysis, 24 EDUC. EVALUATION AND POLY ANALYSIS 305, 313-15 (2002) (arguing that statewide accountability policies positively influenced student achievement in North Carolina and Texas).

¹⁹⁵ See, e.g., Walt Haney, The Myth of the Texas Miracle in Education, EDUC. POLY ANALYSIS ARCHIVES, Aug. 19, 2000, available at http://epaa.asu.edu/ojs/article/viewFile/432/555 (arguing that student achievement gains in Texas did not reflect whether students were learning more).

¹⁹⁸ See U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-03-389, TITLE I: CHARACTERISTICS OF TESTS WILL INFLUENCE EXPENSES; INFORMATION SHARING MAY HELP STATES REALIZE EFFICIENCIES 3-4 (2003), available at http://www.gao.gov/new.items/d03389.pdf (indicating that implementing testing programs under NCLB through 2008 would cost between \$1.9 billion and \$5.3 billion).

¹⁹⁹ See, e.g., U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 147, at 12–13 (indicating that states set AYP goals at different starting points and increase at different rates).

²⁰⁰ See, e.g., CTR. ON EDUC. POL'Y, supra note 148, at 122, 129 (arguing that many states offered supplemental services instead of public school choice due to the difficulties of implementing NCLB choice provisions).

²⁰¹ See id. at 138-39, 141 (arguing that supplemental services providers do not provide the same frequency, duration, and range of services to all areas, and that providers charge different hourly rates).

administrative requirements of NCLB.²⁰² In the context of these mixed evaluations of accountability systems and specific concerns about NCLB, the effect of NCLB on student achievement has also sparked hot debate. NAEP results released in 2005 indicated that nine-year olds had their best scores in reading and mathematics in the history of the test's administration, and based on these results, the Bush administration concluded that NCLB "is working."²⁰³ However, other analysts attacked this claim by focusing on other trends in student achievement,²⁰⁴ and as the Center on Education Policy argued, any increases in achievement may have been due to factors other than the law.²⁰⁵ Thus, it is very difficult to ascertain the impact of NCLB accountability mechanisms on students' learning opportunities and achievement.

Evaluations of the NCLB requirements governing SBR similarly offer few indications that these requirements have promoted better decisions about the deployment of educational resources. ED has indicated that little educational research meets the "gold standard" of randomized experiments, and as discussed further below, educational research traditionally has not employed experimental methods.²⁰⁶ As a result, states and districts, which are already poorly positioned to judge the scientific rigor of educational research, are left with few programs they can implement under the SBR requirements.²⁰⁷ While little research has been conducted on many of the programs that must be supported by SBR, it appears that the evidentiary base underlying these programs differs dramatically²⁰⁸ and that ED has not

²⁰² See, e.g., U.S. GOV'T. ACCOUNTABILITY OFFICE, supra note 147 (discussing the additional funding needed to implement valid testing practices); see also Mathis, supra note 158, at 94 (arguing that NCLB is underfunded under several different measures).

²⁰³ See U.S. DEP'T OF EDUC., NO CHILD LEFT BEHIND ACT IS WORKING (2006), available at http://www2.ed.gov/nclb/overview/importance/nclbworking.pdf (discussing gains in test scores since NCLB was enacted).

²⁰⁴ See JOHN CRONIN ET AL., NW. EVALUATION ASS'N, THE IMPACT OF THE NO CHILD LEFT BEHIND ACT ON STUDENT ACHIEVEMENT AND GROWTH: 2005 EDITION 19 (2005), available at http://www.nwea.org/our-research/state-information (scroll down the page and click on the "Impact of the No Child Left Behind Act on Student Achievement and Growth" hyperlink in the left column corresponding to the date 04/07/2005) (discussing difficulties in proving that NCLB is positively influencing student achievement).

²⁰⁵ See CTR. ON EDUC. POL'Y, supra note 148, at 35-36 (discussing several analyses of the relationship between NCLB and student test score gains).

²⁰⁶ See COWAN WITH EDWARDS, supra note 20, at 125 (examining the scientifically based research provisions of NCLB).

²⁰⁷ See id at 125-26.

²⁰⁸ See, e.g., Sheila N. Kirby et al., Schools Identified as in Need of Improvement Under Title I: Recent Evidence from the National Longitudinal Survey of Schools 11 (RAND Educ., Working Paper No. WR-154-EDU, 2005), available at http://www.rand.org/pubs/working_papers/ WR154/ (indicating that schools identified as in need of improvement have implemented a broad range of strategies, and that almost half of the schools identified for improvement for two years had adopted five or more separate strategies).

consistently enforced the SBR requirements.²⁰⁹ Moreover, while many states have indicated that Reading First has caused increased student achievement in reading,²¹⁰ a recent study released by ED found that Reading First was ineffective.²¹¹ So, although Congress modified Title I to ensure that educational funding decisions are made with greater attention to research and evidence, the implementation of the SBR provisions thus far has been inconsistent, sometimes highly politicized, and seemingly ineffective.

Taking together the historical research on Title I, NCLB, and standardsand accountability-based reforms more generally, it is difficult to conclude that Congress has fared much better than the courts in increasing the effectiveness of educational funding through Title I. Like judges ruling in school finance suits, federal legislators have become aware of the difficulties they have faced in translating funding into increased school quality and learning opportunities. However, their attempts to tighten the relationship between funding and learning opportunities through accountability systems appear to have been based much more on politics and ideology instead of evidence. Indeed, in an effort to increase the efficiency and effectiveness of Title I through NCLB, Congress has actually made Title I significantly more costly and likely less efficient. Moreover, there is little indication that the focus on ensuring decision-making about Title I funds has more evidence-based through SBR has increased the effectiveness of Title I funding. In addition to the significant political issues that have influenced the implementation of Reading First, there are few, if any, programs that meet the SBR standards of Title I, and as discussed in Section I.E, there is currently scant scientific evidence about how to employ financial resources effectively at scale.²¹² So, despite the significant push in Congress for making federal decisions about educational funding more effective through reformed governance and a focus on educational research, Congress seems to have fared no better, and perhaps even worse, than the courts in this field.

²⁰⁹ See, e.g., CTR. ON EDUC. POL'Y, supra note 148, at 29 (indicating that, in 2005, twentyone states rated the scientifically based research provisions as being strictly or very strictly enforced, while twenty-one states rated these provisions as being somewhat or not at all enforced).

²¹⁰ See id. at 92 (indicating that, in 2005, nineteen states indicated that Reading First was an important or very important cause of increased student achievement in reading).

²¹¹ See INST. OF EDUC. SCI., U.S. DEP'T OF EDUC., NCEE 2008-4016, READING FIRST IMPACT STUDY: INTERIM REPORT ix (2008), available at http://ics.ed.gov/ncee/pdf/20084016.pdf (analyzing the effectiveness of Reading First).

²¹² See supra notes 95-107 and accompanying text.

III. THE FUNDING OF SCIENTIFICALLY BASED RESEARCH

A. The Education Sciences Reform Act

In addition to integrating the concept of SBR into NCLB, Congress has also built this concept into the heart of the Education Sciences Reform Act (ESRA).²¹³ Enacted shortly after the NCLB, the ESRA authorized the creation of the Institute of Education Sciences (IES), the new research arm of ED.²¹⁴ While the ESRA generally describes the administrative structure and functions of IES, the act also specifically provides that IES may only fund educational research that comports with SBR standards.²¹⁵ Such legislative priorities reflect a significant change from the ways in which the federal government has traditionally funded and regulated educational research.²¹⁶ While the federal government has collected, analyzed, and published education statistics for over a century, and has significantly increased its funding commitment to educational research since Sputnik's launch in 1957, ED's funding priorities have never been so focused.²¹⁷ IES's predecessor, the Office of Educational Research and Improvement (OERI), has been attacked for supporting fragmented, short-term, and overly politicized research, and funding for educational research has long been limited.²¹⁸ Congress enacted the ESRA largely in response to such concerns and specifically to facilitate the production of high-quality research that could help schools meet the accountability requirements of NCLB. Given the perceived failure of federal funding to boost educational quality and of educational research to provide clear directives to policymakers, the ESRA was aimed at tightening the relationship between federal funding and student performance.²¹⁹

In order to achieve this goal, the ESRA established five divisions inside IES.²²⁰ The National Center for Education Research (NCER), the IES division most involved with research funding decisions, is

²¹³ Education Sciences Reform Act of 2002, Pub. L. No. 107-279, 116 Stat. 1940 (2002) (codified as amended in scattered sections of 20 U.S.C.).

²¹⁴ See 20 U.S.C. § 9511(a) (2006).

²¹⁵ See infra notes 223-34 and accompanying text.

²¹⁶ See MARIS A. VINOVSKIS, U.S. DEP'T OF EDUC., CHANGING FEDERAL STRATEGIES FOR SUPPORTING EDUCATIONAL RESEARCH, DEVELOPMENT, AND STATISTICS (1998), available at http://www.eric.ed.gov/ERICWebPortal/recordDetail?accno=ED423317.

²¹⁷ See id.

²¹⁸ See, e.g., MARIS A. VINOVSKIS, REVITALIZING FEDERAL EDUCATION RESEARCH AND DEVELOPMENT: IMPROVING THE R&D CENTERS, REGIONAL EDUCATIONAL LABORATORIES, AND THE "NEW" OERI 177–82 (2001).

²¹⁹ See 148 CONG. REC. H1739-41 (daily ed. Apr. 30, 2002); 148 CONG. REC. S10480 (daily ed. Oct. 15, 2002).

²²⁰ See 20 U.S.C. § 9511(c) (2006).

specifically required to "support scientifically valid research activities"221 and may only fund research conducted under "scientifically based research standards."222 While these concepts are defined differently than SBR is defined in NCLB, the focus of these concepts is somewhat similar. Under the ESRA, "scientifically valid research" means basic, applied, and "field-initiated research in which the rationale, design, and interpretation are soundly developed in accordance with scientifically based research standards."223 "Scientifically based research standards" are those that "(i) apply rigorous, systematic, and objective methodology to obtain reliable and valid knowledge relevant to education activities and programs: and (ii) present findings and make claims that are appropriate to and supported by the methods [] employed."²²⁴ This term explicitly includes research "employing systematic, empirical methods that draw on observation or experiment,"225 and "making claims of causal relationships only in random assignment experiments or other designs" that "eliminate plausible competing explanations for the obtained results."226 These standards are aimed at promoting the funding of research that is "most effective, cost efficient, and able to be applied, duplicated, and scaled up for use in elementary and secondary classrooms."227

The actions taken to implement the ESRA have closely tracked the law's focus on producing research through randomized experiments to support the development of programs that can be deployed at scale to cause increases in student achievement. ED repeatedly published guidelines and research priorities that prioritized research designs that employed randomized controlled trials over other types of research designs and focused on increases in student achievement.²²⁸ Moreover, the IES funding priorities stressed that researchers should employ "quasi–experiments," or research designs relying on large databases that allow researchers to correlate characteristics of students with each other and certain outcomes, where randomized experiments are not possible.²²⁹ Indeed, because of their power to artificially, though incompletely, control for different

228 See Scientifically Based Evaluation Methods, 70 Fed. Reg. 3586-89 (Jan. 25, 2005); U.S. DEP'T OF EDUC., supra note 168, at v (describing the types of research designs that must be supported under the ESRA). To be sure, the Institute of Education Sciences has arguably softened its stance on randomized experiments. See INST. OF EDUC. SCI., U.S. DEP'T OF EDUC., EDUCATION RESEARCH GRANTS: REQUEST FOR APPLICATIONS 62 (2008) (stressing the utility of research designs such as quasi-experiments and of qualitative data).

229 See U.S. DEP'T OF EDUC., supra note 168, at v., supra note 168, at 10.

²²¹ *Id*. § 9512.

²²² Id. § 9534(a)(1).

²²³ Id. § 9501(20).

²²⁴ Id. § 9501(18)(A)(i)-(ii).

²²⁵ Id. § 9501(18)(B)(i).

²²⁶ Id. § 9501(18)(B)(iv).

²²⁷ Id. § 9533(11).

characteristics that could influence the relationship between programs and student outcomes, quasi-experiments allow researchers to make limited claims of causality.²³⁰ To be sure, many of the grants actually awarded by IES have been for research projects that do not prioritize randomized trials.²³¹ However, the research priorities of IES have clearly sparked hot, and sometimes bitter, debate among the educational research community about the types of methodologies and research privileged by the law.²³²

In order to provide information to educational practitioners and policymakers, IES has also begun to run the What Works Clearinghouse (WWC), an entity that reviews evidence on educational interventions and programs, and reports such information on the IES website.²³³ The WWC generally reports on whether programs in a variety of instructional areas, such as elementary school mathematics and early reading, improve student achievement.²³⁴ In reviewing programs, the WWC focuses on interventions that are designed to impact immediate outcomes, such as student achievement, along with "interventions that are designed to achieve long-term [] outcomes."235 Since its establishment in 2002, WWC has been criticized strongly by both educational program developers²³⁶ and researchers²³⁷ for being overly politicized in its reviews of programs and ultimately ineffective. So, largely generated by congressional concerns about the historical failure of the federal government to boost educational opportunities and of the educational research community to provide guidance to policymakers about "what works," Congress has begun to regulate funding for educational research in a similar way as it has begun to regulate Title I funding.

²³⁰ See Valrie Reyna, Remarks at the United States Department of Education Working Group Conference on the Use of Scientifically Based Research in Education (Feb. 6, 2002) (transcript available at http://www2.ed.gov/nclb/methods/whatworks/reasearch/transcript. pdf).

²³¹ See GROVER J. WHITEHURST, INST. OF EDUC. SCI., U.S. DEP'T OF EDUC., IES 2009-6010, RIGOR AND RELEVANCE REDUX: DIRECTOR'S BIENNIAL REPORT TO CONGRESS 12 (2008) (stating that for FY 2004-2008, only twenty-six percent of awarded grants fell under research categories that prioritize random trials).

²³² See infra notes 243-50 and accompanying text.

²³³ See What Works Clearinghouse Home Page, http://www.ies.ed.gov/ncee/wwc (last visited Jan. 10, 2010).

²³⁴ Since its establishment in 2002, the WWC has reviewed evidence on 492 interventions and programs, and has identified eighty of these interventions as having positive or potentially positive evidence of effectiveness. WHITEHURST, *supra* note 231, at 14.

²³⁵ See id. at 15.

²³⁶ See, e.g., id. at 14 (stating that one developer called for the scientific community to "rain down condemnation on WWC").

²³⁷ See Alan H. Schoenfeld, What Doesn't Work: The Challenge and Failure of the What Works Clearinghouse to Conduct Meaningful Reviews of Studies of Mathematics Curricula, EDUC. RESEARCHER, Mar. 2006, at 13, 19 (indicating that the WWC attempted to "suppress the expression of scholarly work").

B. Analyses of Federal Regulation of Educational Research

The recent federal regulation of educational research under SBR standards has generated significant controversy among the educational research community. While some have cast recent federal efforts to define and directly regulate SBR as a welcome remedy to what is perceived as irrelevant educational research and the poor evidentiary base for making educational policy decisions, others have framed such efforts as the inappropriate insertion of government into the research process.

In accordance with the research priorities underlying the ESRA, skeptics argue that much existing educational research is methodologically suspect and low quality because it has not traditionally relied on randomized experiments or quasi-experiments, or prioritized examinations of the effects of educational programs on student achievement.²³⁸ As many researchers have noted, conducting randomized experiments is one of the most powerful types of research because it allows researchers to control for various factors that could potentially influence observed outcomes. Randomized experiments therefore enable researchers to make stronger claims of causality. Indeed, research designs using randomized experiments have been heavily employed in the health sciences and have provided extremely valuable information for making decisions about health policy and practice.²³⁹ Some researchers accordingly argue that the research priorities of IES will lead to the identification and development of educational interventions that "work" at scale and are effective at improving student achievement.²⁴⁰ Although many researchers indicate that quasi-experiments are not as powerful as randomized experiments, some researchers have labeled quasi-experiments as preferable where randomized experiments are not available. Thus, some observers have argued that IES has already begun to transform educational research into a field that is more evidence-based and capable of identifying and developing interventions that can be effectively implemented at scale.²⁴¹

On the other hand, several researchers have argued that the definition of SBR in the ESRA and the funding priorities of IES are too narrow. As some critics have argued,

[T]he law codifies one position in a complex, ongoing debate about the

²³⁸ See COWAN WITH EDWARDS, supra note 20, at 76.

²³⁹ See, e.g., Reyna, supra note 230.

²⁴⁰ See, e.g., INST. OF EDUC. SCI., U.S. DEP'T OF EDUC., NBES 2008-6005, NATIONAL BOARD FOR EDUCATION SCIENCES 2007 ANNUAL REPORT 2 (2007), *available at* http://ies.ed.gov/director/pdf/20086005.pdf (describing the performance of and raising the recommendations for the Institute of Education Sciences).

²⁴¹ See ExpectMore.gov: Institute of Education Sciences Research, http://www. whitehouse.gov/omb/expectmore/summary/10009008.2007.html (last visited Mar. 9, 2010) (labeling IES as "effective").

quality and rigor of educational research. While we do not question the elegance, power, and utility of experimental designs, they cannot answer all important questions the field faces; other genres of research are both necessary and relevant to maintain the vitality of educational research.²⁴²

Employing such logic, the National Research Council has eschewed recommending particular methods for conducting educational research, and has instead argued more broadly that strong research poses significant questions that can be investigated empirically, links research to relevant theory, uses methods that permit direct investigation of the question, provides a coherent and explicit chain of reasoning, replicates and generalizes across studies, and discloses research to encourage professional scrutiny and critique.²⁴³ As Professor Raudenbush has argued, "[A] randomized trial is relevant only when there's a causal question on the table[,] [and] [t]here are many terrifically important questions for educational policy that are not causal."²⁴⁴ Moreover, there are many situations in which randomized experiments simply are not feasible in education.²⁴⁵

Much of the reason that various research designs are needed for conducting strong educational research stems from the nature of education as a field that can be heavily influenced by nuanced differences in context. For example, while an intervention that reduces class size may positively impact student performance when teachers employ particular teaching strategies, it may not impact student performance when teachers employ other strategies. As some researchers have noted, "Class size has no magical, unmediated effect on student achievement. . . . A class size reduction provides an opportunity for improvements in classroom processes. Teachers can take advantage of this opportunity in different ways and to different degrees."246 Indeed, if policymakers pour financial resources into reducing class sizes, teachers may use their new opportunities inconsistently, and the original resource allocation decision may accordingly result in inconsistent (or small overall) gains in student learning.²⁴⁷ Moreover, given that classroom-based learning is heavily contextualized, and that there are several powerful influences that "impede, constrain, support, and promote

²⁴² Daniel Liston et al., NCLB and Scientifically-Based Research: Opportunities Lost and Found, J. TCHR. EDUC., Mar./Apr. 2007, at 99, 100 (2007).

²⁴³ See COMM. ON SCIENTIFIC PRINCIPLES FOR EDUC. RESEARCH, SCIENTIFIC RESEARCH IN EDUCATION 52 (Richard J. Shavelson & Lisa Towne eds., 2002) (describing fundamental principles for educational research).

²⁴⁴ Lisa Towne, Remarks at the United States Department of Education Working Group Conference on the Use of Scientifically Based Research in Education (Feb. 6, 2002) (transcript available at http://www2.ed.gov/nclb/methods/whatworks/reasearch/transcript.pdf).

²⁴⁵ See id.

²⁴⁶ GENE GLASS ET AL., SCHOOL CLASS SIZE 67 (1982).

²⁴⁷ See Cohen et al., supra note 16, at 131-32 (discussing the need to begin analyses of funding use with analyses of classroom practice).

student learning," and that teachers are often powerless to manipulate, effectively scaling up educational interventions that may work in one particular setting is extremely difficult.²⁴⁸

For such reasons, some top educational researchers have suggested that research on the use of educational resources should shift from simply prioritizing simple questions about whether funding directly causes increases in student learning to deeply analyzing how resources are utilized within the instructional processes in schools and classrooms-instead of simply focusing on "conventional resources" (such as funding and the physical objects that can be bought, like books and computers), strong research should examine the complex interaction between practitioners' "personal resources" (such as teachers' skill and knowledge), "environmental and social resources" (such as state guidance for instruction and professional leadership), and conventional resources.²⁴⁹ Moreover, such research should focus on instructional "regimes," or well-defined systems of instruction that have specific goals, outcome measures, and treatments intended to produce outcomes.²⁵⁰ Given the heavily contextualized nature of classroom practice, there would be enormous variability in the range of instructional behavior covered by any single instructional regime, and the rules of these regimes should act more like broad principles that need to be actively applied by educators to particular instructional situations in order to be effective at scale-as "[a] great deal must be left to teachers and students to deal with on the spot," educators would have to decide how and whether such principles apply in their particular schools and classrooms.²⁵¹

Because research focused on examining the interaction of funding and other types of educational resources in instructional regimes would involve not just understanding whether regimes work, but how, why, and under what conditions such regimes can be effective, many researchers have stressed the need for several different types of methodologies. While randomized experiments and quasi-experimental research focusing on increases in student achievement are essential for understanding whether instructional regimes can produce their intended effects, they are not sufficient. Non-experimental qualitative studies (such as ethnographies) are also essential for analyzing how micro-level differences in context may impact the interaction of resources and student learning under

²⁴⁸ See Sarah-Kathryn McDonald et al., Scaling-up Exemplary Interventions, EDUC. RESEARCHER, April 2006, at 15, 17. "It is the variability introduced by these contextual differences that creates uncertainty regarding the potential of an intervention to be brought to scale." *Id.* at 16.

²⁴⁹ See Cohen et al., supra note 16, at 127 (discussing a new framework for understanding educational resource use).

²⁵⁰ See id. at 135.

²⁵¹ See id. at 135-36.

particular instructional regimes.²⁵² This type of research is also essential for understanding why randomized experiments indicate that certain regimes work in particular settings.²⁵³ Given the value of using a range of research designs for understanding important policy issues, such as the relationship between funding and learning opportunities, the definition of SBR in the ESRA appears overly narrow and representative of only a segment of the educational research community.

In short, the new focus on SBR in the ESRA reflects an attitude toward educational funding evident in recent school finance cases and Title I. In response to the historically ineffective actions taken to translate funding into educational opportunity at scale, governmental decision-makers have begun to look to educational research for answers. While the ESRA appears to constitute a reasoned response to the inconsistent quality of educational research and the lack of a solid evidentiary base for making effective educational funding decisions, this law also fails to account for the complex and heavily contextualized nature of education. Moreover, much like other efforts to tie educational funding decisions with research, the ESRA at least partially reflects the influence of politics instead of evidence on such decisions-the law overly narrows federal educational research priorities by taking a politicized position in the scientific debate over educational research methodologies. And while our knowledge about educational reform is growing, it is still quite limited, and concerns remain about the capacities and dispositions of our governmental institutions to effectively interpret scientific evidence to the extent that it is present. Given the problems that various governmental institutions have faced making decisions about educational resources and recent efforts to more strongly base such decisions on research, this Article now turns to recommendations for reforming governmental approaches to educational resources.

IV. REFORMING GOVERNMENTAL APPROACHES TO EDUCATIONAL RESOURCES

A. Tenets to Guide Future Governmental Action

Recommendations to improve decisions about educational resources in light of the range of problems governmental institutions have faced in this field could take any number of forms. Here, I aim at laying out fundamental tenets to guide governmental action and at outlining an approach that would grow from such tenets.

First, governmental actions to improve decisions about the distribution

²⁵² Generally speaking, qualitative research employs methods such as narrative research, phenomenology, grounded theory, ethnography, and case study. *See* JOHN W. CRESSWELL, QUALITATIVE INQUIRY AND RESEARCH DESIGN: CHOOSING AMONG FIVE TRADITIONS (1998) (discussing a range of major, qualitative research designs and methodologies).

²⁵³ See Towne, supra note 244.

and use of educational resources should focus on more than money. As most researchers recognize, funding is clearly a central element of ensuring that students receive adequate and equitably distributed learning opportunities. But significantly increasing and equalizing funding are, by themselves, insufficient; in order to translate funding into robust learning opportunities for students, money must be used wisely.²⁵⁴ Although our knowledge about how to use funding wisely is limited, we can certainly do better than we have in the past-decisions about resource use and distribution should at least be rational.²⁵⁵ That is, governmental decisions should be based on a nuanced and deliberative examination of evidence. and should be reasonable in light of the strengths and weaknesses of the evidence that is actually available. Recent governmental actions, such as the judicial consideration of cost studies or the integration of SBR standards into NCLB and the ESRA, certainly indicate significant movement in this direction. On their face, these moves depict an awareness that funding decisions have been based traditionally on political preference and signal that governmental decision-makers are attempting to remedy this historical problem. However, especially when Congress has been involved, politics still seem to overwhelm evidence.²⁵⁶ So, the movement toward evidencebased decision-making about educational resources must become even stronger.

Second, governmental decisions about resource distribution and use should be coherent. Although courts ruling in school finance cases and Congress appear to be broadly moving in similar directions with regard to the use of evidence, their methods for using research to improve the use of educational funding ultimately have been very different. Moreover, courts' decisions about educational resources have varied significantly even in the same case and when addressing the same evidence.²⁵⁷ And Congress' definitions of SBR in NCLB and the ESRA differ as well. Such incoherence can create uncoordinated and ultimately conflicting mandates about

²⁵⁴ See supra notes 102-07 and accompanying text. To be sure, many researchers have focused on money as at least a partial solution. See, e.g., Liu, supra note 6, at 2127. Here, I simply claim that, while funding is extremely important, it should only be part of a broader strategy that carefully regulates how money is used.

²⁵⁵ In discussing recommendations for improving funding through principles of national citizenship, Professor Liu similarly calls for a rational inquiry by Congress. *See* Goodwin Liu, *Education, Equality, and National Citzenship*, 116 YALE L.J. 330, 341 (2006) ("But the essential requirement is that Congress pursue a deliberate inquiry into the meaning of national citizenship and its educational prerequisites and that it take steps reasonably calculated to remedy conditions that deny children adequate opportunity to achieve those prerequisites.").

²⁵⁶ As discussed *infra* notes 264–69 and accompanying text, legislatures are likely more subject to political influence than courts. An effectively functioning system for making decisions about educational resources should be constructed based on knowledge of such institutional characteristics.

²⁵⁷ See, e.g., supra notes 69-74 and accompanying text.

resource distribution and use, which is one of the fundamental problems of the U.S. education system that standards-based reform strategies were originally intended to solve.²⁵⁸ In order to avoid exacerbating historical problems of incoherence, judicial and legislative strategies to improve educational resource distribution and use should be aligned.

Of course, the call for increased alignment begs the question: aligned around what? Content standards seem to make the most sense as an anchor for educational resource decisions-courts have used these standards to help define adequacy in school finance litigation,²⁵⁹ and they lie at the heart of NCLB.²⁶⁰ Given that each state presently has its own set of standards, the principle of coherence would perhaps best be served by the creation of national standards-these standards could provide a common goal for funding schemes that are uncoordinated in part because federal and state level governmental institutions make funding decisions independently of each other.²⁶¹ Still, it would take more than outcome standards to make funding decisions more coherent; as discussed above, governmental institutions have used very different methods to make funding decisions even when looking to the same set of standards.²⁶² To address this problem, governmental institutions would also need a shared body of evidencebased principles for school reform, linked to content standards, to use as the basis for making funding decisions.²⁶³ What such principles would look like is discussed further below.

Third, a reformed approach to educational resources should be sensitive to the differing strengths and weaknesses of governmental institutions. As the discussion of governmental approaches toward educational resources in Parts I, II, and III reflects, courts and legislatures possess different strengths and weaknesses—while some governmental decision-makers appear heavily influenced by politics, others appear less so but unable to effectively address scientific evidence. According to institutional choice theorists, the differing characteristics of different institutions, such as

²⁵⁸ See Marshall S. Smith & Jennifer O'Day, Systemic School Reform, in The POLITICS OF CURRICULUM AND TESTING: THE 1990 YEARBOOK OF THE POLITICS OF EDUCATION ASSOCIATION 233, 236–38 (Susan H. Fuhrman & Betty Malem eds., 1991) (discussing the problems of policy fragmentation and incoherence).

²⁵⁹ See supra notes 50-53 and accompanying text.

²⁶⁰ See supra notes 126-30 and accompanying text.

²⁶¹ Although the U.S. currently does not have national standards, a mandate to build voluntary national standards was built into Goals 2000. However, these standards were never drafted in the face of intense political pressure. See Superfine, supra note 122, at 23-25.

²⁶² See supra notes 68-74 and accompanying text.

²⁶³ In another work, I have similarly called for the creation of "opportunity to learn" standards, which would be linked to content standards. The call for broad, evidence-based principles represents an attempt to think further about what such opportunity to learn standards would look like and how they could be operationalized in relation to educational funding. See SUPERFINE, supra note 5, at 192.

courts, the political branches (e.g., legislatures and agencies), and the market, make these institutions more or less suited for the achievement of substantive policy goals.²⁶⁴ Legislatures are comparatively well positioned for making decisions that depend on an array of complex information because they have access to a wide range of information and possess much flexibility in their decision-making process.²⁶⁵ However, legislatures are also heavily influenced by the vagaries of the political process. Although agencies possess technical expertise in a field that is very difficult for judges or legislators to similarly possess because they specialize in one type of issue, their positions also have the potential to be politically biased.²⁶⁶ As several researchers have also discussed, the courts are comparatively insulated from the political process and engage in a more evenhanded brand of decision-making.²⁶⁷ Courts accordingly can constitute a useful institution for driving changes in educational policy when other institutions fail to address policy problems because of political inertia, and can bring legitimacy to efforts to address various social problems, such as segregation, that have affected disadvantaged groups.²⁶⁸ However, the courts also have faced many difficulties understanding scientific arguments and evidence, and are influenced by the legal structures guiding decision-making.²⁶⁹ Given the politicized history of governmental decisions about educational resources and recent moves toward making these decisions more evidencebased, a reformed approach to educational resources should account for such institutional differences.

Fourth, a reformed approach should focus on the development of a robust research base for making decisions about educational resource use

²⁶⁴ See NEIL K. KOMESAR, IMPERFECT ALTERNATIVES: CHOOSING INSTITUTIONS IN LAW, ECONOMICS, AND PUBLIC POLICY 5 (1994) (discussing the characteristics of various institutions for the purpose of making policy decisions). To be sure, this section is not aimed at deeply analyzing the comparative institutional characteristics of various institutions. However, it is aimed at providing the conceptual outline for principles underlying reformed governmental approaches to educational resources. For a more detailed application of an institutional choice approach to educational decision-making, see Benjamin M. Superfine, Deciding Who Decides Questions at the Intersection of School Finance Litigation and Standards-Based Accountability Policies, 23 EDUC. POL'Y 480 (2009).

²⁶⁵ See KOMESAR, supra note 264, at 141. Still, especially where relevant information is extremely complex or technical, it is far from clear that legislatures can expertly understand scientific evidence. See Hershkoff, supra note 24, at 1175-76.

²⁶⁶ See David B. Spence & Frank Cross, A Public Choice Case for the Administrative State, 89 GEO. L.J. 97, 99 (2000) (describing the characteristics of administrative agencies).

²⁶⁷ See KOMESAR, supra note 264, at 141.

²⁶⁸ See Michael A. Rebell & Robert L. Hughes, Efficacy and Engagement: The Remedies Problem Posed by Sheff v. O'Neill—And a Proposed Solution, 29 CONN. L. REV. 1115, 1146 (1997) (describing the use of the courts in school finance reform litigation to effectively influence educational policy).

²⁶⁹ See Welner & Kupermintz, supra note 24, at 139 (describing courts' use of social science to decide desegregation case).

and distribution. While it is important to extend the approach of the ESRA by continuing to fund random experiments and quasi-experiments that focus on student achievement, it is also very important to produce research that is sensitive to the influence of micro-level, contextual interactions on students' learning opportunities. Thus, a range of qualitative research also should be funded to understand how, why, and under what conditions interventions that are found effective through experimental designs actually work. Efforts to further the educational research base should generally be aimed at developing broad, evidence-based principles that can be actively applied by educators to the contextual interactions and ever-changing environments that influence the implementation of educational programs. As it stands, the evidentiary base for articulating such principles is weakdue to both the research produced by the educational research community and governmental regulation of such research, educational researchers have not focused on building such principles or honing the methodological tools for engaging such research. However, a commitment by both the policymaking and research communities to developing such a research base is critical for designing and implementing more effective educational resource policies.

Fifth, a reformed approach to educational resources should involve regulation that requires implementers to adhere to these broad, evidencebased principles, and to actively make decisions about how to apply these principles in light of local conditions.²⁷⁰ These are precisely the principles that should constitute an anchor for coherent resource decisions, along with content standards, as discussed above.²⁷¹ It is worth noting that approaches that promote uniformity among implementers, such as "best practices" policies sometimes employed by various agencies, would be poorly suited for a reformed approach to educational resource policy.²⁷² Best practices regimes generally include sets of practices that must be applied fairly rigidly by implement educational policy.²⁷³ Indeed, there unfortunately does not appear to be an existing, widespread model of governance that easily matches the recommended approach to educational resources.

Instituting a funding system built around the articulation and application of broad, evidence-based principles would have profound implications for the reform and governance of schools. Accountability mechanisms, such as those mandated by NCLB, would need to shift to focus not just

²⁷⁰ As discussed *supra* notes 255–56 and accompanying text, such principles should be part of well-specified and coherent instructional regimes.

²⁷¹ See supra notes 259-61 and accompanying text.

²⁷² But see Robinson, supra note 47, at 1719–20 (recommending a best practices approach while eschewing a "one-size-fits all approach").

²⁷³ See David Zaring, Best Practices, 81 N.Y.U. L. REV. 294, 300 (2006) ("[T]he process of copying that marks best practices makes them well-suited for achieving sameness.").

on student and school performance, but also the implementation of the evidence-based principles. Designing an accountability system that could effectively support and attach incentives to the use of funds to implement these principles would be exceedingly difficult-evaluations of this implementation would involve complex analyses of the extent to which educators apply these principles rationally and effectively to the range of situations they face. Clearly, traditional standardized assessments focused on student achievement and accountability systems focused primarily on AYP at the school level are insufficient. Instituting such a system also has significant implications for scaling up particular educational reforms. Under the logic of this system, there is no "magic bullet" educational reform into which funding should be channeled. Instead, resources must be wisely used to create knowledge about important educational principles and to develop educators that can actively apply these principles to a variety of situations: there simply is no effective boilerplate model for educational reform including easily applicable rules that can be applied across a range of contexts. Indeed, in order for educational funds to be used significantly more effectively, educational governance in the U.S. must transform dramatically. The following section lays out a model of governance that could begin to move our educational system in this direction.

B. Reforming Governance to Improve Decisions about Educational Resources

While no approach to governmental decision-making about educational resources would produce a "perfect" educational resource policy, one structured to reform governance systems around the principles articulated in Part IV.A would constitute a significant improvement.²⁷⁴ Under these principles, a governance system structured to produce better resource policy decisions should generally be "experimentalist."²⁷⁵ That is, the governance system should be built to generate information, provide a process-based engine for change, require governments to demonstrate progress toward goals, and to consider input from various stakeholders.²⁷⁶ Such systems are also characterized by a continuing interplay between governmental branches, and are well suited for defining and enforcing vague constitutional rights, such as those at play in school finance litigation.²⁷⁷ Under experimentalist governance approaches, courts generally look to

²⁷⁴ As Professor Komesar argues, there are only "imperfect alternatives" in the field of governance and policy. See KOMESAR, supra note 264, at 5.

²⁷⁵ See Alana Klein, Judging as Nudging: New Governance Approaches for the Enforcement of Constitutional Social and Economic Rights, 39 COLUM. HUM. RTS. L. REV. 351, 355 (2008) ("The most developed and theorized accountability-centered approaches to constitutional rights realization have been called experimentalist.") (citations omitted).

²⁷⁶ Id.

²⁷⁷ See id. at 353-54, 356.

vague constitutional provisions that detail rights, and instead of issuing top-down and detailed commands to fix violations, supervise a process of negotiation among parties and stakeholders.²⁷⁸ These negotiations result in periodic revisions of rules in light of ongoing monitoring and accountability structures revolving around standards.²⁷⁹ Indeed, in response to historical problems facing public law litigation in various domestic policy areas, such as housing reform, mental health reform, police reform, prison reform, and education reform, courts have begun to get increasingly involved in experimentalist action.²⁸⁰

A reformed approach to educational resources based on experimentalist governance would be founded on the basic law underlying school finance litigation. As an initial step, litigants should bring a lawsuit under the education clause of a state's constitution focused on the failure of a state to distribute and use educational resources to provide students with adequate educational opportunities. In doing so, litigants would draw on the courts' strength to overcome the political inertia facing changes in resource policy. Litigants should particularly focus on a state's continuing failure to make decisions about educational resources on the basis of a well-reasoned examination of evidence and failure of schools to help students meet standards. In light of their increasing sensitivity to the prevalence of political preference in the decision-making processes about educational resources and the need to integrate scientific evidence into these processes, but recognizing their limitations in constructing detailed remedies on the basis of such evidence, courts should then focus litigation on reforming educational governance to produce better decisions. Courts should particularly initiate negotiations among the parties and stakeholders (such as teachers, schools, districts, and state government) to create a governmental structure for ensuring that educational resource decisions are based on a nuanced examination of evidence and are sensitive to the range and variety of conditions faced by implementers of educational policy.

Drawing on the comparatively greater technical capacities of other governmental branches, courts should look to content standards and the SBR movement emerging in Congress. Courts should particularly require their states to adopt standards for the deployment of educational resources that are grounded in federal definitions of SBR. Then, states should distribute resources using evidence that meets such standards, and require districts (who should in turn supervise schools) to distribute and use resources similarly. Implementers closer to the "street level" (e.g. district and school level administrators, teachers) should make the final decisions

²⁷⁸ See id. at 394.

²⁷⁹ Id.

²⁸⁰ See Charles F. Sabel & William H. Simon, Destabilization Rights: How Public Law Litigation Succeeds, 117 HARV. L. REV. 1015, 1018 (2004) (articulating the concept of "destabilization rights" to describe courts' new modes of action in experimentalist systems).

about how to use resources in light of relevant evidentiary standards and local context. Courts should also periodically check with states to ensure that states have constructed and are implementing evidence-based resource policy systems, and to supervise mid-course corrections with input from stakeholders and local implementers. By looking to implementers who are closer to local conditions to make important resource allocation decisions, but requiring the decisions to be made in accordance with broad, evidence-based principles, courts would simultaneously avoid decisions outside of their institutional competencies while effectively wielding their institutional power to break political deadlock.

Of course, the construction and implementation of such systems would require more than careful implementation by state courts, state governments, and schools. Drawing on their financial capacities and greater expertise in educational research, the federal government (through both legislative and administrative action) should articulate a set of national content standards.²⁸¹ Furthermore, the federal government should clearly specify what constitutes SBR to facilitate the production of research that accords with the principles discussed in Part IV.A, identify the types of evidence that comport with these principles, and ensure that such information is widely distributed in a usable form to resource policy implementers. The federal government would also bear the burden of ensuring that the SBR standards are defined and implemented in a much less politicized fashion. To the extent that this concept is implemented in a highly politicized way (such as the way this concept has been implemented in Reading First, for example),²⁸² state courts should rule that evidence generated by federal action should not be used by states to make resource policy decisions. Such critiques of federal action could put significant pressure on the federal government to implement the SBR provisions in a more evenhanded way.

In addition to encouraging more evidence-based decision-making, this type of system would also facilitate increased coherence of resource policy in states. Although litigation and supervision of reformed governance systems would occur on a state-by-state basis (because of the state-bystate character of school finance litigation), the focus on federally designed evidentiary standards and national content standards would create an anchor for decisions about resource use within and across states. States accordingly could avoid the incoherence caused by uncoordinated and conflicting legislative and judicial decisions about resource use. Moreover, aligning the activities of various governmental decision-makers to such standards would more precisely aim these entities at the same goal of

²⁸¹ Given the prohibition against the federal government dictating instruction, national content standards could serve as model standards and be adopted by states on a voluntary basis. Still, the public dimension of such standards would create a strong incentive for states to raise the quality of their own standards.

²⁸² See supra notes 170-84 and accompanying text.

increasing the effectiveness of educational resources. Indeed, although significant educational reform is difficult to effect through policy, the coordination of governmental branches has historically proven effective in leveraging fundamental changes in educational governance.²⁸³

Even if educational governance were to be reformed in this fashion. there would clearly remain several other areas of educational policy that would also need to be reformed in order for resource policy to be implemented as effectively as possible. For example, states would need to develop robust and sustainable teacher and principal development and retention policies to ensure that educators have the skills and knowledge to effectively interpret and use available evidence. The educational research community would need to do a better job of producing evidence about educational resources that would be useful for policymakers and educators, and researchers would need to devote significantly more attention to honing the methodological approaches needed to develop such evidence. Moreover, the relationship between the educational research community and policymakers would need to be significantly strengthened. Still. fundamentally reforming educational governance under the principles discussed above should serve as the basis for such other efforts and thereby significantly improve the ways in which educational resources are currently deployed.

CONCLUSION

Despite the importance of educational resources for providing students with robust and equitable learning opportunities, governmental entities historically have made decisions about these resources largely on the basis of political preference instead of reasoned analyses of evidence. Responding to such problems, both courts and legislatures recently have begun to consider evidence about educational resources more deeply in their decision-making processes. While the movement toward evidencebased decision-making in this field represents a significant and desirable shift, decision-makers should be careful not to settle for simply coating their decision-making processes in the veneer of scientific reasoning; in order to make more effective decisions about the distribution and use of educational resources, governmental decision-makers should be more sensitive to the characteristics of the educational process and educational research, and should integrate such knowledge into their decision-making processes about educational resources. Through a reformed system of governance actively built to reflect the characteristics of the educational process, and

²⁸³ For example, in the late 1960s and early 1970s, federal courts, the U.S. Congress, and the Johnson administration focused on desegregation, and thereby spurred quicker change in educational governance than perhaps at any other time in U.S. history. See Rebell, *supra* note 44, at 1494.

to amplify the strengths and minimize the weaknesses of governmental institutions, courts and legislatures can govern more effectively in this field. While directly facing the challenges of an increasingly technical world in education is difficult and constitutes a break with traditional modes of decision-making in educational policy, it is a task of utmost importance for ensuring that our students receive the educational resources and learning opportunities that they deserve.