Math & Science Are Core to IDEAs: Breaking the Racial and Poverty Lines

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MATH AND SCIENCE ARE CORE TO THE IDEA: BREAKING THE RACIAL AND POVERTY LINES

Jeffrey C. Sun* & Philip T.K. Daniel**

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INTRODUCTION

The Individuals with Disabilities Education Act (IDEA) and, as amended, the Individuals with Disabilities Education Improvement Act (IDEIA), provides protections for students with disabilities in grades pre-K–12 to ensure that they may receive a “free appropriate public education” (FAPE). While serving as a civil rights law to ensure fairness in education for students with disabilities, disparities based on race, sex, and family income levels have unfortunately

2. 20 U.S.C. § 1400(d)(1)(A). A “free appropriate public education” means special education and related services that:
   (A) have been provided at public expense, under public supervision and direction, and without charge;
   (B) meet the standards of the State educational agency;
   (C) include an appropriate preschool, elementary school, or secondary school education in the State involved; and
   (D) are provided in conformity with the individualized education program required under section 1414(d) of this title.
§ 1401(9).
accompanied IDEA implementation. These issues associated with IDEA execution raise questions about the genuine nature of FAPE and its effects on various societal groups.

With IDEA’s last reauthorization, the heightened disparity with respect to race became evident in the data. These concerns were brought to the attention of Congress and the U.S. Department of Education by way of various reports and concerns, which resulted in an attempt to remedy these racial disparities.\(^6\) Among numerous other objectives, the regulations arising from IDEA (and IDEIA) aimed to reinforce protections and ensure academic success for students with disabilities, especially racial minority students.\(^7\) At the time of IDEA’s most recent reauthorization, the data was abysmally clear: racial differences already existed in special education identification\(^8\) and graduation rates.\(^9\) Congress’s awareness and increased regulatory attention not only mandated funding and different program responses, but also resulted in the creation of many

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\(^6\) See, e.g., NAT’L BLACK CAUCUS OF STATE LEGISLATORS, CLOSING THE ACHIEVEMENT GAP: IMPROVING EDUCATIONAL OUTCOMES FOR AFRICAN AMERICAN STUDENTS 12 (2001) (raising the issue of the overrepresentation of African-American students in special education along with the fiscal constraints in serving these students); Div. of Behavioral & Soc. Scis. & Educ., Nat’l Research Council, Education and the Changing Nation, in ACHIEVING HIGH EDUCATIONAL STANDARDS FOR ALL: CONFERENCE SUMMARY 13--28 (Timothy Ready et al. eds., 2002) (presenting the national dialogue on educational disparities as matter for concern to policymakers).

\(^7\) 34 C.F.R. § 300.157 (2013) (mandating state monitoring and evaluation of disproportionate representation of racial and ethnic groups in special education).

\(^8\) U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-13-137, INDIVIDUALS WITH DISABILITIES ACT: STANDARDS NEEDED TO IMPROVE IDENTIFICATION OF RACIAL AND ETHNIC OVERREPRESENTATION IN SPECIAL EDUCATION (2013).

\(^9\) Jay P. Heubert, Disability, Race, and High-Stakes Testing of Students, in RACIAL INEQUITY IN SPECIAL EDUCATION 149 (Daniel J. Losen & Gary Orfield eds., 2002); see also § 300.157 (requiring states to examine and set goals to improve graduation rates).
educational innovations for students with disabilities. Congress also aided the process further with an examination of the response to intervention (RtI).

Educational interventions are typically instructional programs consisting of a planned set of procedures to address cognitive, behavioral, or social challenges that students face. RtI represents systematic actions that target children’s areas of specific need as soon as those needs become apparent. Many reportedly innovative and successful intervention programs have emerged since the enactment and reauthorization of the IDEA, particularly in urban school districts. These interventions and other supporting programs typically focus on remedying the educational gaps of students with disabilities through communication and language arts skills. Conversely, while math and science remain core subject areas, these academic subjects have been less accessible to students, particularly urban students and certain racial minorities in urban districts (namely African-Americans and Hispanics). This deficiency is alarming, given that the literature on student performance and competitive

10. See, e.g., 34 C.F.R. § 300.226 (2013) (requiring targeted instructional interventions to children’s areas of specific need as soon as those needs become apparent).
11. 20 U.S.C. § 1414(b)(6)(B) (2012); see also § 1412(a)(24) (“[All states must have] policies and procedures designed to prevent inappropriate over-identification or disproportionate representation by race and ethnicity of children with disabilities . . . .”)
12. § 1414(b).
13. § 1414(b)(6)(B).
16. Although regulations under the IDEIA place emphasis on reading and math, the education practice literature has referred to addressing the reading and communication skills as the primary focus. See, e.g., Stanley S. Herr, Special Education Law and Children with Reading and Other Disabilities, 28 J.L. & EDUC. 337 (1999) (focusing on the concern of reading as the focal point for supporting students with disabilities).
employment status suggest “clear connections between the 21st century workforce” and proficiency in scientific and technical skills.  

This Article argues that the IDEA does not adequately address quality learning in two critical, core academic subjects—math and science. Specifically, it asserts that the IDEA’s funding and its accountability provisions (even those tied to the No Child Left Behind Act) fail to provide sufficient measures to ensure that racial minorities (particularly African-Americans and Hispanics) and low-income students in urban areas who are identified as having a disability, are prepared to achieve significant, incremental progress in math and science. This deficiency is a major concern due to the significant proportion of racial minorities and economically disadvantaged students who find themselves categorized as “disabled” under IDEA’s terms (discussed at length in Part II). In turn, the law presents a new social stratification that highlights the disability divide. In building the authors’ argument, Part I of this Article presents a general overview of the development of the IDEA and its supporting regulations to demonstrate how the goals of the legislation have evolved over time. Part II addresses the high proportion of students with disabilities from certain disadvantaged groups—particularly African-American and Hispanic students from low-income families residing in urban environments—and the

17. See, e.g., OHIO MATHS. & SCI. COAL., THE FUTURE OF MATHEMATICS AND SCIENCE EDUCATION IN THE PUBLIC SCHOOLS OF OHIO: SCENARIOS AND STRATEGIES 5–6 (2008); EDNA TAN & ANGELA CALABRESE BARTON WITH ERIN TURNER & MAURA VARLEY GUTIÉRREZ, EMPOWERING SCIENCE AND MATHEMATICS EDUCATION IN URBAN SCHOOLS 1 (2012); Rodger W. Bybee & Bruce Fuchs, PREPARING THE 21ST CENTURY WORKFORCE: A NEW REFORM IN SCIENCE AND TECHNOLOGY EDUCATION, 43 J. RES. SCI. TEACHING 349, 350 (2006) (“Science and technology education must be seen as essential to achieving the desired workforce competencies, which include critical thinking, complex communications skills, and the ability to solve semi-structured problems.”).


19. Under U.S. Department of Education regulations pursuant to No Child Left Behind, state assessments are required—even alternative assessments, and they “must yield results for the grade in which the student is enrolled in at least reading/language arts, mathematics, and, beginning in the 2007–08 school year, science . . . .” 34 C.F.R. § 200.6(a)(2)(ii)(A) (2013). Nonetheless, action items related to that data, particularly for students with disabilities, have been well articulated because of a lack of accountability. Further, as the authors present in Part III of this Article, the extremely low rates of proficiency in math and science for certain racial minorities from high poverty urban areas present policy concerns that must be addressed in the next reauthorization of IDEA, which is expected to take effect in 2014.
problems of misidentification and misclassification. Drawing heavily from one midwestern state’s data, Part III highlights the significant deficiencies in the subject areas of math and science among students with disabilities from disadvantaged groups, and raises questions about special education policies and practices. Finally, Part IV offers possible solutions. In the form of action items, the authors propose more aggressive and intentional policies to remedy the disability divide such as demonstrating math and science progress based on race, ethnicity, and socioeconomic status and establishing university partnerships to identify scientifically sound and contextually appropriate instructional interventions.

I. LEGISLATION AND REGULATIONS GOVERNING STUDENTS WITH DISABILITIES

Part I examines federal laws pertaining to students with disabilities, tracing their evolutionary significance and highlighting policy omissions. U.S. policies on disability education started with broad awareness of, and preliminary program development for, children with disabilities using grant programs.\(^{20}\) The law was fairly unstructured in terms of specific goals. It was largely a block grant supporting state facilities and educational centers for children with disabilities. Special education policies have, however, maintained a consistent focus on training teachers—though with varying levels of expectations.\(^{21}\) By 1975, U.S. policymakers eventually shifted their focus to legislation grounded in civil rights: the Education for All Handicapped Children Act.\(^{22}\) Later, as the law became reauthorized as the Individuals with Disabilities Education Act of 1990, reporting of student data to help assess learning became incorporated into the process, and parental rights and process mediators entered into the

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picture. Today, federal policies such as the Individuals with Disabilities Education Improvement Act of 2004 (especially when read in conjunction with the No Child Left Behind Act of 2001) present more defined goals leading to intended targeted outcomes and educational responses. This recent federal policy draws on established scientific research to determine proper support services. Nonetheless, special education policies still neglect to require significant, incremental progress in math and science, despite the importance of those subjects on the functional capacities for twenty-first century workforce skills.

A. Early Education Laws Placing Attention on Students with Disabilities

Focusing on fostering educational opportunities for every child, Congress took an initial step to include assistance for students with disabilities when it amended the Elementary and Secondary Education Act of 1965. The law incorporated “a grant program ‘for the purposes of assisting the States in the initiation, expansion, and improvement of programs and projects . . . for the education of handicapped children.’” Five years later, Congress repealed the amended section and established a grant program known as the Education of the Handicapped Act (EHA). The program’s primary purpose was to include the development of educational resources and training personnel for educating the handicapped. Ironically, the enactment of the 1966 amendment and the 1970 Act contained no specific guidelines as to the application of the grant funds. Nonetheless, the law recognized that educator involvement with

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24. ROTHSTEIN & JOHNSON, supra note 21, at 112.
28. Id.
29. See *Rowley*, 458 U.S. at 180.
respect to training and the inclusion of more resources would aid in supporting students with disabilities.30

While initial legislation supporting students with disabilities presented an ambiguous or aimless goal, the judicial environment reshaped special education policy when two federal district cases were handed down in 1972.31 Through judicial policymaking, both Mills v. Board of Education of the District of Columbia and Pennsylvania Association for Retarded Children v. Commonwealth (P.A.R.C.) earmarked the responsibility of public schools in facilitating the educational process for students with disabilities.32 Congress responded in 1974 by amending the EHA and providing for three significant changes.33 Specifically, the law (1) provided the Commissioner of Education with the responsibility for funding qualified state programs based on educational standards;34 (2) transformed the former EHA into civil rights legislation prohibiting discrimination based on the severity of the disability;35 and (3) sought to maximize the number of children on a “regular” education track, avoiding separate classes or schooling, when possible, for students with disabilities.36

32. Daniel & Coriell, supra note 31, at 573.
A year later, Congress made several other amendments to the EHA. During discussions of the law and the proposed amendments, a question arose as to whether all school children had a right to an education—specifically students with disabilities. The legislative history even reported that “[s]ince [the] P.A.R.C. and Mills [cases], there have been 46 cases which are completed or still pending in 28 States” addressing the educational rights of students with disabilities. By some accounts, the new law moved closer to a more inclusive approach. Reflecting the law’s modified goals, the title of the Act changed from the EHA to the Education for All Handicapped Children Act (EAHCA). An extensive Findings and Purposes section was included within the Act. Research disclosed in this section evinced that more than one-half of the children with disabilities did not receive an appropriate educational service.

Out of concern for and in an effort to emphasize the states’ constitutional obligation to provide equal education, the EAHCA placed a heavy burden upon the states to effectuate a plan with aims

38. See S. REP. NO. 94-168 (1975), reprinted in 1975 U.S.C.C.A.N. 1432 (including language that “establish[es] a goal of providing full educational opportunities to all handicapped children” (emphasis added)).
   (2) the special educational needs of [children with disabilities] are not being fully met;
   (3) more than half of the handicapped children in the United States do not receive appropriate educational services which would enable them to have full equality of opportunity;
   (4) one million of the handicapped children in the United States are excluded entirely from the public school system and will not go through the educational process with their peers;
   (5) there are many handicapped children throughout the United States participating in regular school programs whose handicaps prevent them from having a successful educational experience because their handicaps are undetected;
   (6) because of the lack of adequate services within the public school system, families are often at great distance from their residence and at their own expense.
of reaching these educationally underserved students.\footnote{See generally Education for All Handicapped Children Act, Pub. L. No. 94-142, 89 Stat. 773 (codified as amended at 20 U.S.C. §§ 1400--1485 (Supp. V 1993)).} For instance, the statute sought to enumerate goals by developing more stringent procedural requirements for students with disabilities to receive a FAPE within the least restrictive environment.\footnote{See Education for All Handicapped Children Act of 1975, Pub. L. No. 94-142 § 618(d)(2)(A), 89 Stat. 773, 792.} This change included an effort to maximize educational integration with students who were not disabled through mainstreaming.\footnote{Daniel H. Melvin II, The Desegregation of Children with Disabilities, 44 DEPAUL L. REV. 599, 617--18 (1995) (arguing for the mainstreaming of students with disabilities to achieve an “individualized education,” and advocating for courts to intervene toward mainstreaming classrooms).} In addition, the law incorporated procedural safeguards that enabled parental involvement in the child’s educational decisions.\footnote{Id. at 658--60.} Put simply, the amended law increased the government’s responsibility to provide equal educational opportunities for all students by shifting the policymaking authority to federal legislators and moving federal support from a grant program to a civil rights law that relies on educational standards. Specifically, the EAHCA strengthened civil rights policies for students with disabilities by mandating a state plan or map, which held states accountable to the federal funds.\footnote{See  Education of the Handicapped Amendments of 1977, Pub. L. No. 95-49, 91 Stat. 230 (codified as amended at 20 U.S.C. §§ 1401, 1426, 1436, 1441, 1444, 1454). For allotment and allocation of funds for implementation of state plans, see 20 USC § 1411 (2012).}

While making marked progress, the law nonetheless had some clear shortfalls. Professor Dixie Snow Huefner summarized the key problems at an academic forum in the early 1990s.\footnote{See generally Dixie Snow Huefner, Judicial Review of the Special Educational Program Requirements Under the Education for All Handicapped Children Act: Where Have We Been and Where Should We Be Going?, 14 HARV. J.L. & PUB. POL’Y 483 (1991).} Her primary concern rested with the Individualized Education Program (IEP). As she explained, “I argue that the elements of the IEP provide an overlooked means of gauging whether students with disabilities are progressing sufficiently to be receiving a FAPE.”\footnote{Id. at 488.} Huefner asserted that individualized assessment of student learning was imperative.\footnote{Id. at 501--10.} She urged the courts to “go beyond a focus on the nature of special education services, and especially to examine and apply the criteria by
which progress toward achievement of IEP objectives is to be measured.” In other words, she advocated for an evaluation of educational quality in terms of the value proposition (i.e., identifying what exactly the students gained from the educational environment). According to Huefner, the school should be responsible for such demonstration, arguing “the burden of proof in FAPE disputes properly rests with the school district at the administrative hearing level.” The value proposition might not have been realized as quickly as the next generation (or amendment) of the EAHCA, but the law did attend to several critical matters that had been overlooked in prior versions.

B. Individuals with Disabilities Education Act (IDEA) and Amendments

In 1990, Congress again modified the civil rights legislation for students with disabilities. As part of the law’s reauthorization, the legislation’s moniker changed once again, and was renamed the Individuals with Disabilities Education Act (IDEA). It also achieved several other distinctions, notably expanding the scope of

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51. Id. at 488.
52. See id. at 501–10 (proposing standards that demonstrate a “benefit” from the educational experience).
53. Id. at 488; see also id. at 510–15 (elaborating her claim further).
54. See supra notes 43–47 and accompanying text (clarifying education requirements under the standard of a free appropriate public education, elaborating on the least restrictive environment standard, and mandating a state plan).
55. As Professor McCarthy aptly notes, the courts used the law to suggest inclusion of students with disabilities in regular education classrooms. See Martha M. McCarthy, Inclusion of Children with Disabilities: Is it Required?, 95 EDUC. L. REP. 823, 823 (1995). McCarthy observed that judicial decisions after the 1990 amendments “suggest that courts are becoming less deferential to school personnel in analyzing the [least restrictive environment (LRE)] mandate and more assertive in ordering inclusion.” Id. at 827. Today, the two perspectives still reflect a great debate. Inclusion places the child in a regular education setting, and when appropriate, brings the educational services to the child. By contrast, mainstreaming consists of preparatory actions to transition students with disabilities into regular education classrooms and represents a demonstrated achievement to the regular classroom. Based on the literature, there appears to be interchanging of the terms without sufficient precision to the distinctive application of each. For a more detailed analysis of the cases at a later stage of the amendment’s adoption and demonstrated with numerical evidence, see Perry A. Zirkel, The “Inclusion” Case Law: A Factor Analysis, 127 EDUC. L. REP. 533, 535–37 (1998).
eligible students who qualify as having a “disability.” The law as amended included children with autism, attention deficit disorder, and traumatic brain injury. The law also recognized assistive technology’s role as a mechanism to enhance learning and performance, and it incorporated transition services out of the school setting. Further, the changes from the EAHCA to the IDEA included the incorporation of “‘people first’ language into the amendments, changing references to ‘handicapped children’ to ‘children with disabilities.’” In short, the law symbolically placed the “person” or child at the center, but more significantly, it emphasized assistive technology’s potential as an education source and addressed the intended outcome of having students function without significant support resources after they leave school.

57. Id. at § 305(b), 104 Stat. 1103, 1123.
59. See 20 U.S.C. § 1401(a)(34) (Supp. III 1991). Transition services are a coordinated set of activities for a student . . . designed to be within a results-oriented process, [which promotes] movement from school to post-school activities, including post-secondary education, vocational education, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation. [The coordinated set of activities shall be based] upon the individual student’s needs, taking into account the student’s preferences and interests, and shall include instruction, community experiences, the development of employment and other post-school living objectives, and, when appropriate, acquisition of daily living skills and functional vocational evaluation.

61. The legislative history contained messages hoping for student self-sufficiency. The concept of self-sufficiency has been advocated previously. See, e.g., John S. Harrison, Self-Sufficiency Under the Education for All Handicapped Children Act: A Suggested Judicial Approach, 1981 DUKE L. J. 516, 523 (arguing for a mandated, comprehensive explanation of actions toward an individual’s self-sufficiency as an accountability measure to address the high cost of educating students with disabilities). However, as a practical matter, students with disabilities have varied levels of functionality. Educators cannot always teach self-sufficiency. Nonetheless, the law incorporates a more thorough approach to IEPs, parental rights through procedural safeguards, and preparation for next steps through transition plans.
In 1997, the IDEA underwent additional revisions, which significantly aligned funding with its goals.\textsuperscript{62} Congress declared five primary goals to improve the law, hoping to move from mere rhetoric to more concrete action. These goals were to: (1) place an emphasis on what is best educationally for children with disabilities instead of paperwork; (2) give teachers more flexibility and schools lower costs; (3) enhance parental input; (4) make schools safer for students and teachers; and (5) focus and consolidate special education discretionary programs.\textsuperscript{63}

Practically speaking, this change led to curricular and student learning assessments as well as teacher training—both special education and regular education teachers.\textsuperscript{64} Moreover, as the House Report that accompanied this legislation clearly stated, “parents are [now] assured full membership in the IEP Team, participating in all decisions related to their child’s IEP, including placement.”\textsuperscript{65} In sum, the 1997 Amendments increased qualifications of teachers (both special and regular education), sought greater inclusion of data through assessments, continued emphasis of inclusive educational techniques, and strengthened the role of child advocates—particularly through parental rights.\textsuperscript{66}

C. Individuals with Disabilities Education Improvement Act (IDEIA) and No Child Left Behind (NCLB)

In 2004, the reauthorization rolled out more detailed changes under the new statutory title, the Individuals with Disabilities


\textsuperscript{63} Id.

\textsuperscript{64} See, e.g., Lance J. Porter, Personnel Qualifications in Special Education: Legal and Practice Considerations, 11 J. DISABILITY POL’Y STUD. 130, 132–33 (2000) (addressing shortages of special education teachers, the need for educational training programs, and the cross-training of regular education teachers to support students with disabilities); Mitchell L. Yell & James G. Shriner, The IDEA Amendments of 1997: Implications for Special and General Education Teachers, Administrators, and Teacher Trainers, FOCUS ON EXCEPTIONAL CHILD., Sept. 1997, at 1, 1–19 (noting the expanded and complex responsibilities of administrators and teachers in supporting students with disabilities).


\textsuperscript{66} See RUTH COLKER, DISABLED EDUCATION: A CRITICAL ANALYSIS OF THE INDIVIDUALS WITH DISABILITIES EDUCATION ACT 1 (2013), (critiquing the law for advantaging parents with time, knowledge, and commitment to participate in the child’s education in order to obtain education resources).
Education Improvement Act of 2004. The law’s primary focus is a heavy interest in accountability. In particular, it parallels NCLB, including provisions for student assessments, standards for student learning proficiency, and teacher qualifications. NCLB’s academic standards require states to develop a plan by making adequate yearly progress toward improved academic performance. The goal is that all students master the twelve core academic subjects; specifically, they are expected to meet or exceed state standards in reading and math by 2014. Under the IDEIA, a regulation also establishes an early intervention approach for students who are not considered disabled but exhibit academic and behavioral problems in regular education.

Practically speaking, the definition of a FAPE became more enmeshed with state standards, which complicated the requirements of an IEP. Today, an IEP must present academic achievement and functional performance, measurable annual goals, goal tracking progress, educational services and supplementary aids (based on peer-reviewed research to the extent practicable), and explanations

68. Mitchell L. Yell et al., Individuals with Disabilities Education Improvement Act of 2004 and IDEA Regulations of 2006: Implications for Educators, Administrators, and Teacher Trainers, FOCUS ON EXCEPTIONAL CHILD., Sept. 2006, at 1, 2-4 (emphasizing the attainment of “real results” that link IDEA to NCLB).
69. See 20 U.S.C. §§ 1400-1485; 150 CONG. REC. H10,006--24 (daily ed. Nov. 19, 2004) (statement of Rep. Boehner) (emphasizing the bill’s capacity to align with the No Child Left Behind Act); id. (Conf. Rep.) (statement of Rep. Kind) (expressing disappointment that the omnibus discussions propose $600 million funding when $1 billion is needed and noting that the conformance to the Department of Education’s expectations of meeting standards by 2014 is not likely given the demands and financial shortfall).
73. 34 C.F.R. § 300.226 (2013) (permitting up to fifteen percent of the local education agency funds used to address early intervening services).
77. § 1414(d)(1)(A)(i)(I).
78. § 1414(d)(1)(A)(i)(II).
80. § 1414(d)(1)(A)(i)(IV).
and statements pertaining to participation in regular classrooms and assessments.\textsuperscript{81}

In addition, both laws and their accompanying regulations indicate sensitivity and awareness of underserved and disadvantaged students. For instance, under NCLB, the regulation states that “closing the achievement gap between high- and low-performing children, especially the achievement gaps between minority and nonminority students, and between disadvantaged children and their more advantaged peers” reflects an aim of the law.\textsuperscript{82} Accordingly, separate data tracking is required to monitor trends, especially for economically disadvantaged students, students from different racial and ethnic groups, students with disabilities, and students with limited English proficiency.\textsuperscript{83} The authorization of IDEIA, implemented in conjunction with NCLB, recognized the multi-faceted issues that contribute to educational “achievement gaps” among students.\textsuperscript{84} Thus, the focus of IDEIA arguably expanded to serve a broader group of underserved students.\textsuperscript{85} Specifically, it sought to remedy discrepancies in education not only by addressing a student’s disability, but also by taking into account educational inadequacies among students of racial minorities and poor socioeconomic status.\textsuperscript{86}

The Tenth Circuit for the U.S. Court of Appeals has described the law as “procedures to guarantee disabled students access and opportunity, not substantive outcomes.”\textsuperscript{87} Indeed, it may be true that IDEA (or IDEIA as amended) does not prescribe the performance measures that state policies may enact. Nonetheless, the collective effects of IDEA and NCLB operate as strict accountability frameworks with regular demonstrations of continuous improvement—what the authors argue as a value proposition.\textsuperscript{88}

\begin{flushright}
84. § 200.13(a)(2)
85. See § 200.13
86. See Weber, supra, note 22 at 353.
87. Thompson R2-J Sch. Dist. v. Luke P., 540 F.3d 1143, 1151 (10th Cir. 2008) (holding school district did not need to reimburse parents for their unilateral decision to place child in residential school where student’s IEP is reasonably calculated to provide autistic child with educational benefits, which may not include generalized skills across multiple settings).
88. See generally Mitchell L. Yell & Michael Rozalski, The Peer-Reviewed Requirement of the IDEA: An Examination of Law & Policy, in ADVANCES IN LEARNING AND BEHAVIORAL DISABILITIES 149–72 (Bryan G. Cook et al. eds., 2013);
\end{flushright}
Further, the integration of these two laws signals the increasing application of scientific research in education, and a concerted effort to close the achievement gap—particularly in terms of underserved and disadvantaged students. Nonetheless, as discussed in Part III, despite the legislation’s evolution and relative progress, current U.S. special education law continues to improperly frame and inadequately implement mechanisms to advance the value proposition for racial minorities and economically disadvantaged students.89

II. RACE AND POVERTY

For many years, educational research has observed the social disadvantage on educational performance based on both race and socioeconomic status.90 Part II presents some of the key social science research on the effects of race (particularly African-American and Hispanic) and income level. It does so by addressing the societal barriers for these underprivileged students in special education, the biases associated with misidentification and misclassification, and the educational drawbacks when racial minorities and low-income children are placed in special education.

A. Societal Barriers

Racial minorities and students from low-income families have historically been overrepresented in special education classes in the U.S. public school system.91 In 1968, Lloyd Dunn, an educational

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89. See infra, Part III.


91. Memorandum from Alexa Posny, Dir., Office of Special Educ. Programs, to State Dir.s of Special Educ.) (Apr. 24, 2007), available at http://www2.ed.gov/policy/speed/sped/guid/idea/memosdcltrs/osep07-09disproportionalityofraciaelandethnicgroupsinspecialeducation.pdf; see David Osher et al., Schools Make a Difference: The Overrepresentation of African American Youth in Special Education and the Juvenile Justice System, in RACIAL INEQUITY IN SPECIAL EDUCATION 94 (Daniel J. Losen & Gary Orfield eds., 2002); see also MICHELLE FINE, FRAMING DROPOUTS:
researcher, reported that approximately 60–80% of children classified as “mentally retarded” in the public education system were children from “low-status backgrounds—including Afro-Americans . . . and children from other non-middle class environments.”

This trend continued, as a 1980s study reported that while African-American students comprised only 16% of the total student population in public schools, they represented 38% of special education students. Even after the legislation aimed at reducing this disparity (i.e., the IDEA) was passed, in 2011, African-American children comprised 33% of enrollment in classes for disabled students, while only constituting 17% of total school enrollment. In some districts, this racial disparity is even more pronounced: 41% of special education students in some districts were African-American male students.

Other racial minorities, including Hispanics, Native Americans, and Asian Pacific Americans, are also overrepresented in the identification for special education in some states.

But such disparity is not limited to race alone; poverty is also directly correlated to special education in our public schools. A study of Massachusetts’ special education enrollment, published in 2012, found that low-income students in Massachusetts were “nearly twice as likely to be placed in special education programs as other students.”

The study found that “approximately 23% of low-income students in Massachusetts are students with disabilities, compared to

NOTES ON THE POLITICS OF AN URBAN PUBLIC HIGH SCHOOL 20–21 (1991) (Professors Michelle Fine, Pedro Noguera, and Lisa Delpit offer sociological examinations of urban education for racial minorities from low socioeconomic backgrounds to present societal barriers in the students’ achievements).


94. Id.

95. Wakelin, supra note 3, at 264.


98. See Swasey, supra note 97.
about 15% of students who are not low-income.”99 Racial minority status and low-income status are closely linked in the special education context; “there is a strong correlation between race and poverty, and poverty and disability.”100 As Professor Garda explained in an article, “[s]ocioeconomic status is closely tied to race, and correlates directly with educational outcomes.”101 While poverty proves to be a significant factor in the classification of students as disabled for IDEA purposes, race “impacts special education rates far more than any other variable . . . . The percentage of minority students in the district is the strongest driver of special education enrollment . . . .”102 Further, the racial minority and low-income combination is especially likely to manifest itself in urban areas, where services are limited and resources are scarce.103

**B. Misidentification and Misclassification**

Much of the discourse on the subject of racial and low-income overrepresentation in special education describes the disparity as one of “misidentification and misclassification,” largely from inadequate resources and training.104 Misidentification occurs when teachers inappropriately identify minority students as students with disabilities; misclassification occurs when students who have already been identified as disabled are then incorrectly labeled with a disability that they do not have.105 When racial minorities and students from low-income backgrounds are both misidentified and misclassified, a second level of disproportionality is added to the

101. Id.
104. Togut, supra note 93, at 166.
mix. For instance, when a student is incorrectly identified as having a disability, and then is incorrectly classified as having a high-incidence disability, the student may be placed in a restrictive setting for special education. The resulting “increased risk for being educated in restrictive settings” due to a possible misidentification and misclassification is referred to as “double jeopardy” for these minority students.

Racial minority students are also more likely than their white counterparts to be classified in the high-incidence categories of disabilities, including mental retardation (MR), severe emotional disturbance (SED), and specific learning disability (SLD). These categories are ones “in which the problem is often identified first in the school context and the disability diagnosis is typically given without confirmation of an organic cause,” comprising around 88% of students eligible for IDEA services. High-incidence categories such as mental retardation are referred to as “judgmental” or “social system” disabilities, because there is no uniform test to detect them, they are not biologically based, and an amount of discretion is granted in classifying students into the high-incidence categories.

In particular, African-American students are overrepresented in the high-incidence categories of disabilities, comprising a quarter of total students classified as having emotional or behavioral disturbance. Studies based on data from the Special Education Elementary Longitudinal Study (SEELS) and the National Longitudinal Transition Study 2 (NLTS2) reveal that “African-Americans, children from poor families, and single parent households were overrepresented in ED [emotional disturbance].” Interestingly, researchers have identified one possible link between the classification of emotional disturbance and race of the student’s

107. Id.
108. Id.; cf. COLKER, supra note 66, at 242–46 (pointing out that children need advocates, and that racial minorities from urban and low socioeconomic backgrounds are at a disadvantage).
109. Garda, Jr., supra note 100, at 1078–79.
110. Id. at 1078.
111. Id.
112. Wakelin, supra note 3, at 270.
The study found that “as the percentage of African-American teachers increased, overrepresentation of African-American students in emotionally disturbed category decreased.” Similar to the emotional disturbance category, African-American students “are nearly three times as likely as white students to be labeled mentally retarded, and in five states the likelihood is more than four times that of whites.” Another study done by the Harvard Civil Rights Project echoed the finding that African-Americans are three times as likely to be classified as mentally retarded than white students. The MR category “far and away represents the greatest degree of African-American disproportionality,” with African-American students comprising 33% of MR enrollment, but only 15% of total enrollment.

African-Americans are not the only minority to be misclassified or misidentified; other racial minorities are also overrepresented in the high-incidence categories. A study of Asian Pacific Islander students in Hawaii school systems showed that those students were more than three times as likely to be classified as mentally retarded than white students. Another study of Native American children in the Alaska school system reported that Native American students “were 2.43 times as likely to be labeled mentally retarded” when compared with white students.

The prevalence of misclassification and misidentification among racial minorities as well as those of lower socioeconomic status is demonstrative of an ongoing problem that has subsisted throughout modifications of the IDEIA legislation. The problem of IDEA and its progeny’s over-inclusiveness in implementation manifests itself in several negative outcomes, as discussed in more detail below.

114. See Redfield & Kraft, supra note 106, at 156.
115. Id.
117. See U.S. COMM’N ON CIVIL RIGHTS, MINORITIES IN SPECIAL EDUCATION: A BRIEFING BEFORE THE UNITED STATES COMMISSION ON CIVIL RIGHTS 40 (2007).
118. Garda, Jr., supra note 100, at 1079.
119. See Losen & Welner, supra note 96, at 416.
120. Id.
121. Id.
122. This Part should not suggest that developmental delays and other cognitive deficiencies arising from environmental factors should not later place students into special education. Indeed, as Professor Ryan suggests, external sources such as living in poverty contribute to challenges in language and literacy development. James E. Ryan, Poverty as Disability and the Future of Special Education Law, 101 GEO. L.J. 1455, 1491–96 (2013). Drawing on neuroscience research, he points out the flaws
C. Restrictive Settings and Reduced Outcomes

Minority students who have been deemed disabled under the IDEA are “far less likely than white students with disabilities to be educated in a general education classroom and far more likely to be educated in highly separate settings.”

Hispanic and African-American students in particular are twice as likely to be educated in separate educational classrooms as white students with disabilities. The trend of African-American disabled students being disproportionately placed in restrictive environments “is nothing new.” In one study, African-American children “were more likely than their peers with the same disability to be overrepresented in more restrictive settings, or underrepresented in the general education setting” in four out of the five disability categories. The Massachusetts study also found that low-income students, in addition to racial minorities, “are more apt to be educated in separate settings.” The researchers noted that education in separate settings is “particularly alarming given evidence that separation from the mainstream is associated with poorer standardized test performance for students with disabilities.”

The racial and poverty line problem has led to reported drawbacks to these disadvantaged groups. Not surprisingly, studies have shown that minority students who have been placed in special education programs have poor educational outcomes. In a study of high school students graduating in 2003, the graduation rate for white students with disabilities was 59.1%, while the graduation rate for African-Americans with disabilities was 36.2%. Native-American/Alaskan Native disabled students, African-American disabled students, and Hispanic disabled students had the highest dropout rates, at 48.4%, 41.7%, and 38.9%, respectively. Other effects of placing minorities in special education programs include

with IDEA’s exclusionary clause, which operates off the assumption that learning disabilities are derived from an “internal/disorder, innate to the students.”

123. Wakelin, supra note 3, at 270–71.
124. Id.
125. Losen & Welner, supra note 96, at 418.
126. Redfield & Kraft, supra note 106, at 179.
128. Id.
129. See U.S. COMM’N ON CIVIL RIGHTS, supra note 117, at 31.
130. See id.
131. Id.
132. Id.
“greater likelihood of falling into poverty, relying on government benefits programs later in life, higher teen birth rates, and an increased chance of being convicted of a felony.” These findings suggest that investments such as educational interventions and general awareness of the negative, albeit unintended, consequences on racial minorities and economically disadvantaged students are necessary to advance the goals of a civil rights law in special education. Absent narrowly tailored federal action with systemic effects, special education policies will continue to further the disability, racial, and socioeconomic divides—as evidenced by the data presented in Part III.

III. FINDINGS FROM EIGHTH GRADE TESTING

The disability divide may be illustrated by actual evidence from statewide student performance exam scores. Part III begins by explaining the process by which the authors of this Article examined the proficiency levels based on state test scores of eighth grade students in Ohio. Subsequent sub-Parts examine how student proficiency fluctuates by race, economic disadvantage, and population density. As the data demonstrate, the disability divide is most prominent among low-income, racial minority students from high-density urban environments than any other group.

A. Data Sorting, Coding, and Analysis Procedures

To investigate the effects of test performance levels of children with disabilities based on race, economic disadvantage, and population density, the authors of this Article reviewed data from the accountability data from the Ohio Department of Education, which

133. Vallas, supra note 92, at 192.
134. In 2004, IDEIA called for a national study on the “the alignment of alternate assessments and alternative achievement standards to State academic content standards in reading, mathematics, and science;” however, the study is not sufficient to examine actions related to instructional quality that would enhance math and science. See 20 U.S.C. § 1464(c)(3) (2012). To review a copy of the report, see RENÉE CAMETO ET AL., U.S. DEP’T OF EDUC., STATE PROFILES ON ALTERNATE ASSESSMENTS BASED ON ALTERNATE ACHIEVEMENT STANDARDS (2009), available at http://ies.ed.gov/ncser/pdf/20093013.pdf.
135. See discussion infra Part IV.
136. See infra Part III.A.
137. See infra Part III.B--D.
138. See infra Part III.E.
calls the data “Report Cards.”\textsuperscript{139} The accountability measures include academic performance measures of students in Ohio’s public schools as reported by schools and districts.\textsuperscript{140} The data includes information about test score achievements, graduation rates, and literacy rates.\textsuperscript{141} In addition, the data report disaggregated scores by population classifications such as race, disability, and economic disadvantage in order to close the achievement gap.\textsuperscript{142}

The Ohio Report Card data collects data from the entire state, which consists of 614 school districts.\textsuperscript{143} Yet, as is quite clear, not all school districts are educational equals. To differentiate among the 614 school districts, the authors referred to the 2013 School Districts Typology created by the Ohio Department of Education (ODE).\textsuperscript{144} The ODE aimed to divide different school districts into categories by examining different school districts’ shared demographic and geographic characteristics.\textsuperscript{145} Factors that entered into the

\textsuperscript{139} The Ohio Department of Education maintains an “interactive report card,” which functions as a comprehensive database with a built-in analysis system. See \textit{Ohio Interactive Report Card, OHIO DEP’T EDUC.}, http://bireports.education.ohio.gov/PublicDW/asp/Main.aspx?server=edumstrisp02&project=ReportCard&event=3002&uid=guestILRC&pwd=&persist-mode=8 (last visited Dec. 18, 2013). The report card database has records based on various accountability measures such as student discipline records, enrollment, graduation rates, and state test data. \textit{Id.} The interactive report card allows the public to break down the data for purpose of comparisons. \textit{Id.} For instance, the interactive report card permits public users to examine aggregated data about students based on certain characteristics such as race, economically disadvantaged status, and students with disabilities. \textit{Id.} These data may be separated by different units of analysis such as performance levels of students by school district or school building and further delineated by race. \textit{Id.} The authors of this Article used the interactive report card to output school district data based on each typology of school districts. \textit{Id.} Since the state pre-identified exemplar school districts for each typology, the authors provided a closer examination of those data for points of comparison among the different school district categories. \textit{Id.} Further, using the Ohio interactive report card, the data analysis system permitted the authors to separate data by race, economic status, and disability status to conduct more focused inquiries. \textit{Id.} For all of the data tables in this piece, the authors took the raw data from the Ohio Department of Education’s studies, analyzing them to address the issues discussed in this Article. \textit{Id.} At the time of the data collection in late July 2013, the latest data available was for the 2011–2012 school year. \textit{Id.}

\textsuperscript{140} \textit{Id.}

\textsuperscript{141} \textit{Id.}

\textsuperscript{142} \textit{Id.}

\textsuperscript{143} \textit{Id.}


\textsuperscript{145} See \textit{id.}
determinations included average daily enrollment, percentage economically disadvantaged students, median income of the district, population density, and percentage ethnic breakdown. As displayed in Table III.1, that division created eight categories of school districts with roughly 110,000 to 320,000 students in each category.


TABLE III.1: TYPOLOGY OF OHIO SCHOOL DISTRICTS

<table>
<thead>
<tr>
<th>2013 TYPOLOGY CODE</th>
<th>MAJOR GROUPING</th>
<th>FULL DESCRIPTOR</th>
<th>NUMBER OF DISTRICTS WITHIN TYPOLOGY</th>
<th>NUMBER OF STUDENTS WITHIN TYPOLOGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rural</td>
<td>Rural - High Student Poverty &amp; Small Student Population</td>
<td>124</td>
<td>170,000</td>
</tr>
<tr>
<td>2</td>
<td>Rural</td>
<td>Rural - Average Student Poverty &amp; Very Small Student Population</td>
<td>107</td>
<td>110,000</td>
</tr>
<tr>
<td>3</td>
<td>Small Town</td>
<td>Small Town - Low Student Poverty &amp; Small Student Population</td>
<td>111</td>
<td>185,000</td>
</tr>
<tr>
<td>4</td>
<td>Small Town</td>
<td>Small Town - High Student Poverty &amp; Average Student Population Size</td>
<td>89</td>
<td>200,000</td>
</tr>
<tr>
<td>5</td>
<td>Suburban</td>
<td>Suburban - Low Student Poverty &amp; Average Student Population Size</td>
<td>77</td>
<td>320,000</td>
</tr>
<tr>
<td>6</td>
<td>Suburban</td>
<td>Suburban - Very Low Student Poverty &amp; Large Student Population</td>
<td>46</td>
<td>240,000</td>
</tr>
<tr>
<td>7</td>
<td>Urban</td>
<td>Urban - High Student Poverty &amp; Average Student Population</td>
<td>49</td>
<td>225,000</td>
</tr>
<tr>
<td>8</td>
<td>Urban</td>
<td>Urban - Very High Student Poverty &amp; Very Large Student Population</td>
<td>6</td>
<td>185,000</td>
</tr>
</tbody>
</table>

ODE further identified “Exemplar Districts by 2013 Typology Code.” 148 The exemplar districts represented five school districts that most characteristically resembled the criteria for each general typology code. 149 For instance, Cleveland Municipal City was one of five districts qualifying as “Urban—Very High Student Poverty & Very Large Student Population.” 150 Based on data about the district in terms of demographic and geographic characteristics, it qualified as an exemplar district within that typological category as well as Cincinnati, Columbus, Dayton, and Toledo. 151

149. See id.
150. Id.
151. Id.
After reviewing the school district information, the authors explored statewide test data by district.\textsuperscript{152} To determine which test data to examine, the authors considered several sets of grade level data.\textsuperscript{153} Since this study includes an examination of science data, selected primary grade scores were not available.\textsuperscript{154} To ensure several years of potentially adequate science instruction and to avoid drop-outs at the high school level, the authors used eighth grade test scores as the data of interest.\textsuperscript{155} The eighth grade test scores typically included reading, math, and science.\textsuperscript{156} The scores represented on the Ohio Interactive Report Card indicated the percentage of students who demonstrated proficiency in the respective subject. These test scores typically included reading, math, and science.\textsuperscript{157}

For the first set of data examined, the authors culled through the data separating those students who had a disability and those who did not.\textsuperscript{158} The students who were flagged as having a disability were identified by whether the student had an IEP.\textsuperscript{159} The authors further subdivided the data into different racial categories within the number of students with disabilities, and analyzed the proficiency percentage within reading, math, and science average scores.

B. Racially Diverse Urban District with Very High Student Poverty and Very Large Student Population

Using the interactive Ohio Report cards, the authors gathered data for urban school districts that have very high poverty rates and very large student populations.\textsuperscript{160} Tables III.2 and III.3 display the data of the five exemplar districts within the typology of an urban school district with very high student poverty and very large student population.\textsuperscript{161} These districts represent an urban environment with a

\textsuperscript{152} See Ohio Interactive Report Card, supra note 139.
\textsuperscript{153} Id.
\textsuperscript{154} Id.
\textsuperscript{155} Id.
\textsuperscript{156} See id.
\textsuperscript{157} See id.
\textsuperscript{159} Understanding Annual Measurable Objectives (AMOs), supra note 158.
\textsuperscript{160} See Ohio Interactive Report Card, supra note 139.
\textsuperscript{161} Cincinnati City School District, OHIO DEP’T EDUC., http://reportcard.education.ohio.gov/Pages/District-Report.aspx?DistrictIRN=043752 (last visited Dec. 18, 2013); Cleveland City School District, OHIO DEP’T EDUC.,
very high student population base and a very high poverty rate. More than 8350 eighth grade students took the exam in 2011–2012. The data reported below reflects only the eighth graders in these districts who have a disability flag on their record—equaling approximately 1785 students.

The performance of these students is generally weak. If 2014 is the intended year in which all students reach proficiency (as the federal goal reflects), then reaching this goal will be quite difficult. Based on the data, white students with disabilities outperformed African-American students in all test areas—reading, math, and science. For instance, in Toledo City, 39% of the white students demonstrated proficiency in reading whereas only 24.4% of African-Americans demonstrated proficiency in reading. The difference between the two racial groups was 15%. That statistic is significant given that the African-American and white student enrollments in Toledo are nearly equivalent in number.  


162. See supra note 161.
163. See supra note 161.
165. See infra Table III.2.
166. See infra Table III.2.
167. See infra Table III.2.
168. See Ohio Interactive Report Card, supra note 139.
TABLE III.2: EIGHTH GRADE PROFICIENCY LEVELS BY RACE AND SUBJECT, AND DIFFERENCES BY RACE IN URBAN DISTRICTS (WITH VERY HIGH STUDENT POVERTY & VERY LARGE STUDENT POPULATION)

*Typology Code 8: Urban—Very High Student Poverty*

<table>
<thead>
<tr>
<th></th>
<th>African-American, Non-Hispanic</th>
<th>White, Non-Hispanic</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toledo City</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>24.4%</td>
<td>39.4%</td>
<td>-15.0%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>14.5%</td>
<td>34.0%</td>
<td>-19.5%</td>
</tr>
<tr>
<td>Science</td>
<td>6.9%</td>
<td>25.5%</td>
<td>-18.6%</td>
</tr>
<tr>
<td>Cincinnati City</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>39.9%</td>
<td>53.0%</td>
<td>-13.1%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>33.3%</td>
<td>46.2%</td>
<td>-12.9%</td>
</tr>
<tr>
<td>Science</td>
<td>22.7%</td>
<td>35.4%</td>
<td>-12.7%</td>
</tr>
<tr>
<td>Cleveland Municipal City</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>23.5%</td>
<td>40.8%</td>
<td>-17.3%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>18.3%</td>
<td>47.2%</td>
<td>-28.9%</td>
</tr>
<tr>
<td>Science</td>
<td>10.9%</td>
<td>32.8%</td>
<td>-21.9%</td>
</tr>
<tr>
<td>Dayton City</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>12.8%</td>
<td>20.0%</td>
<td>-7.2%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>14.3%</td>
<td>36.7%</td>
<td>-22.4%</td>
</tr>
<tr>
<td>Science</td>
<td>8.4%</td>
<td>15.0%</td>
<td>-6.6%</td>
</tr>
<tr>
<td>Columbus City</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>22.4%</td>
<td>39.1%</td>
<td>-16.7%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>23.6%</td>
<td>38.3%</td>
<td>-14.7%</td>
</tr>
<tr>
<td>Science</td>
<td>17.5%</td>
<td>33.2%</td>
<td>-15.7%</td>
</tr>
</tbody>
</table>
Based on the authors’ collection and analysis of data from the interactive report cards, Table III.3 re-examines the eighth grade proficiency levels in reading, math, and science for African-American and white students with disabilities. Table III.3 adds a column for comparisons within a racial group’s performance relative to reading. Overall, for both African-American and white students with disabilities, reading proficiency tends to be significantly higher than science proficiency. However, the data generally indicates noticeably lower levels of proficiency for African-American students with disabilities in the areas of math and science compared to reading. For instance, in the city of Cincinnati, African-American students with disabilities scored 6.6% lower in math than in reading and 17.2% lower in science than in reading. This finding does not hold true for white students, who demonstrate more fluctuation or discrepant data. Given the national claims and other federal policies directing attention to the demands for increased mastery (not just proficiency) of science literacy, it stands to reason that education in science is necessary to demonstrate functional capacity for twenty-first century workforce skills, and these student deficits signal grave concerns with the special education practice and policy.

169. See id.
170. See infra Table III.3.
171. See infra Table III.3.
172. See infra Table III.3.
173. See infra Table III.3.
174. See infra Table III.3.
175. See supra note 17.
<table>
<thead>
<tr>
<th>Typology Code 8: Urban—Very High Student Poverty</th>
<th>African-American, Non-Hispanic</th>
<th>% Difference to Reading</th>
<th>White, Non-Hispanic</th>
<th>% Difference to Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toledo City</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>24.4%</td>
<td></td>
<td>39.4%</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>14.5%</td>
<td>-9.9%</td>
<td>34.0%</td>
<td>-5.4%</td>
</tr>
<tr>
<td>Science</td>
<td>6.9%</td>
<td>-17.5%</td>
<td>25.5%</td>
<td>-13.9%</td>
</tr>
<tr>
<td>Cincinnati City</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>39.9%</td>
<td></td>
<td>53.0%</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>33.3%</td>
<td>-6.6%</td>
<td>46.2%</td>
<td>-6.8%</td>
</tr>
<tr>
<td>Science</td>
<td>22.7%</td>
<td>-17.2%</td>
<td>35.4%</td>
<td>-17.6%</td>
</tr>
<tr>
<td>Cleveland Municipal City</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>23.5%</td>
<td></td>
<td>40.8%</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>18.3%</td>
<td>-5.2%</td>
<td>47.2%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Science</td>
<td>10.9%</td>
<td>-12.6%</td>
<td>32.8%</td>
<td>-8.0%</td>
</tr>
<tr>
<td>Dayton City</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>12.8%</td>
<td></td>
<td>20.0%</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>14.3%</td>
<td>1.5%</td>
<td>36.7%</td>
<td>16.7%</td>
</tr>
<tr>
<td>Science</td>
<td>8.4%</td>
<td>-4.4%</td>
<td>15.0%</td>
<td>-5.0%</td>
</tr>
<tr>
<td>Columbus City</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>22.4%</td>
<td></td>
<td>39.1%</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>23.6%</td>
<td>1.2%</td>
<td>38.3%</td>
<td>-0.8%</td>
</tr>
<tr>
<td>Science</td>
<td>17.5%</td>
<td>-4.9%</td>
<td>33.2%</td>
<td>-5.9%</td>
</tr>
</tbody>
</table>
C. White-Dominated, Suburban Districts with Very Low Student Poverty

Suburban school districts also maintain divisions between student proficiency in science and reading as well as between math and reading. One might argue that the disparity between reading and other core academic subjects is not unusual and demonstrates no cause for alarm. Nonetheless, the scores in the suburban school districts with very low student poverty report substantially higher rates of proficiency within the suburban districts than the urban districts. When comparing the data for white students between Tables III.3 and III.4, readers may see nearly 15–40% gains in the suburban low poverty to the urban high poverty students. The distance between data points is more apparent when contrasting the white students from the suburban low poverty with the African-American students from the urban high poverty environment. Figure 4.1 illustrates said percentage distance between urban high poverty and suburban low poverty students with disabilities.

176. See supra Table III.3; infra Table III.4.
178. See supra Table III.3; infra Table III.4.
179. See supra Table III.3; infra Table III.4.
180. See infra Figure III.1.
TABLE III.4: EIGHTH GRADE PROFICIENCY LEVELS BY SUBJECT AND DIFFERENCES BETWEEN READING AND MATH/SCIENCE IN SUBURBAN DISTRICTS (WITH VERY LOW STUDENT POVERTY)

**Typology Code 6—Suburban—Very Low Student Poverty**

<table>
<thead>
<tr>
<th></th>
<th>White, Non-Hispanic</th>
<th>% Difference to Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avon Local</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>76.0%</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>56.0%</td>
<td>-20.0%</td>
</tr>
<tr>
<td>Science</td>
<td>64.0%</td>
<td>-12.0%</td>
</tr>
<tr>
<td>Mason City</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>77.8%</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>82.5%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Science</td>
<td>68.3%</td>
<td>-9.5%</td>
</tr>
<tr>
<td>Mariemont City</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>77.8%</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>66.7%</td>
<td>-11.1%</td>
</tr>
<tr>
<td>Science</td>
<td>66.7%</td>
<td>-11.1%</td>
</tr>
<tr>
<td>Perrysburg Exempted Village</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>64.5%</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>71.0%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Science</td>
<td>54.8%</td>
<td>-9.7%</td>
</tr>
<tr>
<td>Aurora City</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>81.3%</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>75.0%</td>
<td>-6.3%</td>
</tr>
<tr>
<td>Science</td>
<td>75.0%</td>
<td>-6.3%</td>
</tr>
</tbody>
</table>
D. Predominantly White, Rural Districts with High Student Poverty

In rural environments, the data, as displayed in Table 4.5, demonstrate less clarity with inconsistent data patterns when examining each district in the sample.\textsuperscript{181} That is, students in each of these rural districts with high student poverty do not present a clear conclusion from the data.\textsuperscript{182} One possibility for this inability to capture patterns in the data is based on the small number of observable or reported test scores; said low number is expected from small rural districts.\textsuperscript{183} For each of these districts, the number of students with disabilities who participated in the test ranged from 21 to 57 students.\textsuperscript{184}

Given the lower numbers of students in rural environments, the variability in the data may reflect data sensitivity to outliers or cases

\textsuperscript{181} See infra Table III.5.
\textsuperscript{182} See infra Table III.5.
\textsuperscript{183} See infra Table III.5.
\textsuperscript{184} See Ohio Interactive Report Card, supra note 139.
of special student characteristics that cause data fluctuation. For instance, several students with severe learning disabilities may disproportionately skew the data. Larger samples tend to iron out the data into a dispersion looking more like a bell curve. Thus, by comparison, the urban districts with high poverty rates had at least 200 students with disabilities, and in Columbus City School District, the reported number of students was 669. The number of observations likely dilutes the effect of outliers or special cases that cause data fluctuation.
TABLE III.5: EIGHTH GRADE PROFICIENCY LEVELS BY SUBJECT AND DIFFERENCES BETWEEN READING AND MATH/SCIENCE IN RURAL DISTRICTS (WITH HIGH STUDENT POVERTY)

Typology Code 1—Rural—High Student Poverty

<table>
<thead>
<tr>
<th>Typology Code 1------Rural------High Student Poverty</th>
<th>White, Non-Hispanic</th>
<th>% Difference to Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Georgetown Exempted Village</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>16.7%</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>50.0%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Science</td>
<td>50.0%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Ridgewood Local</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>23.1%</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>10.0%</td>
<td>-13.1%</td>
</tr>
<tr>
<td>Science</td>
<td>23.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Meigs Local</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>52.6%</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>31.6%</td>
<td>-21.0%</td>
</tr>
<tr>
<td>Science</td>
<td>36.8%</td>
<td>-15.8%</td>
</tr>
<tr>
<td>Hardin-Houston Local</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>54.5%</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>63.6%</td>
<td>9.1%</td>
</tr>
<tr>
<td>Science</td>
<td>45.5%</td>
<td>-9.0%</td>
</tr>
<tr>
<td>Pymatuning Valley Local</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>41.2%</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>70.6%</td>
<td>29.4%</td>
</tr>
<tr>
<td>Science</td>
<td>58.8%</td>
<td>17.6%</td>
</tr>
</tbody>
</table>

E. Conclusion

Part III illustrates the disability divide of disadvantaged groups. As a whole, the data demonstrates math and science performance lags for low-income, racial minorities (particularly African-Americans and
Hispanics).\textsuperscript{185} The data is more apparent for low income, racial minorities from high-density urban environments.\textsuperscript{186} The data show the racial divide, and the data indicate noticeably lower levels of proficiency for African-American students with disabilities in the areas of math and science compared to reading.\textsuperscript{187} Implicitly, this section calls into question special education policies and practices and their ultimate successes and failures. Part IV recommends several action items to combat this disability divide.

\textbf{IV. IDEA POLICY REFORM}

As established in Part III, the disability divide is accentuated in students with disabilities who are economically disadvantaged racial minorities (particularly African-Americans and Hispanics) from high-density urban environments.\textsuperscript{188} Based on the data presented, these students are most likely to face severe deficiencies in math and science.\textsuperscript{189} At present, the IDEA states that the “Federal Government has an ongoing obligation to support activities that contribute to positive results for children with disabilities, enabling those children to lead productive and independent adult lives.”\textsuperscript{190} Nonetheless, the data presented in Part III of this Article illustrate that special education policies under IDEA fail to address this goal in terms of key academic core indicators.\textsuperscript{191} In particular, the data demonstrate significantly lower math and science proficiency levels in high-poverty urban areas with high racial minority enrollments than students of other races living in other geographical areas.\textsuperscript{192} Given this significant shortfall, the authors propose several policy action items to address these effects of the disability divide.\textsuperscript{193} These action items will be particularly critical to consider for the IDEA reauthorization in 2014.

\begin{itemize}
\item \textsuperscript{185} See discussion supra Part III.B.
\item \textsuperscript{186} See supra Table III.2.
\item \textsuperscript{187} See supra Tables III.2 and III.3.
\item \textsuperscript{188} See supra Part III.
\item \textsuperscript{189} See supra Table III.2.
\item \textsuperscript{190} 20 U.S.C. § 1450 (2012).
\item \textsuperscript{191} See supra Part III.B and discussion Part III.
\item \textsuperscript{192} See supra Part III.2 and discussion Part III.
\item \textsuperscript{193} See infra discussion Part IV.
\end{itemize}
A. Act on and Include Science and Math Assessments with a Value Added Proposition Approach

As noted in Part II of this paper, NCLB presents the goal that all students, including special education students, master the twelve academic core subjects, with these students expected to meet or exceed state standards in reading and math by 2014. Of course, alternative assessments are currently available for students with disabilities; however, those assessments are not uniform and present a wide variation in data usefulness and interpretation. Further, the manner in which state achievement is reached is not consistent, and in some cases, not practicable. The authors recommend a demonstrable achievement report that indicates the value added of the students’ learning with annual goals based on each student. Viewed another way, the math and science assessments would be evaluated in relation to the IEP to determine how the student made increases year to year in science and math. Thus, this assessment does not consider whether the students reached the achievement standard, but rather, whether students made incremental progress from year to year and the amount in which districts and states contributed to these students’ gains.

The value added approach, implemented in conjunction with NCLB, effectively shifted the evaluation focus from “How many students in the school or system can demonstrate a minimal level of proficiency?” to What level of impact do teachers, schools, curriculum, and instruction have on student progress and achievement? This shift attempts to address and remedy the

197. See discussion supra Part I.C.
198. This approach focuses on the value-added measure for achievement as opposed to a competency target level.
unfairness and inaccuracy of strict ability-achievement measures on racial minorities and economically disadvantaged students, as explicated in detail above.\textsuperscript{200} Further, this approach allows parents, educators, and legislators to measure, analyze and understand progress and the effectiveness (or ineffectiveness) of certain programs—not just the end result, i.e., a uniform proficiency standard. This approach moves away from the discrepancy model of examining the strict ability-achievement measure;\textsuperscript{201} it is consistent with the policies pertaining to the RtI, which is based on a progress monitoring approach using scientific research to support interventions.\textsuperscript{202} Further, utilizing the value-added analysis allows educators “to ensure: (1) a fit between student abilities and the courses in which they are enrolled and (2) a fit between the curriculum students are taught and their potential future college or career choices.”\textsuperscript{203}

**B. Expand Federal Financial Support to Explore Academic Strategies**

Building off the RtI type of model, the authors recommend more research dollars\textsuperscript{204} in the form of competitive grants\textsuperscript{205} to help inform educators and policymakers of successful practices. Specifically, given the disability divide, grants must address special factors in high poverty urban districts—especially the effects on African-Americans and Hispanics. Such a grant program is important to combat challenges to assessment instruments and engage more urban teachers, counselors, and paraprofessionals in the intervention process (or problem solving process).\textsuperscript{206} For example, in 2010, the

\textit{Community Colleges by Race and Class in the U.S., in Critical Approaches to the Study of Higher Education} ch. 12 (Ana M. Martínez-Aleman et al. eds., 2014). They posit that policies calling for educational value propositions will help combat a growing societal stratification that places low income, minority students (especially first generation college students) at a severe disadvantage to college access. See id.

\textsuperscript{200} See discussion supra Part I.C.

\textsuperscript{201} Much like the discussion addressing Response to Interventions, follow a similar logic. See discussion supra notes 11–14 and accompanying text.

\textsuperscript{202} See discussion supra notes 11–14 and accompanying text.

\textsuperscript{203} Value-Added Analysis, supra note 199.


\textsuperscript{205} See id. § 1451 (defining “competitive grants”).

\textsuperscript{206} See James S. v. Sch. Dist., 559 F. Supp. 2d 600, 623 (E.D. Pa. 2008) (concluding that genuine issues of material fact remained when the school district
U.S. Department of Education’s Office of Innovation and Improvement provided nearly $11.6 million through its Teacher Quality Partnership Grants Program\textsuperscript{207} to the University of Chicago Urban Teacher Education Program (Chicago UTEP) to improve curriculum and teacher preparation in urban K-12 schooling.\textsuperscript{208} The grant was aimed at achieving “improved curriculum to align with the needs of Chicago Public Schools.”\textsuperscript{209} Among its purposes, it called for “the addition of a robust secondary mathematics and science certification program.”\textsuperscript{210} To achieve that goal, the program sought to enhance “recruitment strategies to further improve the selectivity and diversity of candidates, extended new teacher induction activities, and solidified school partnerships.”\textsuperscript{211}

These research grant programs should also support pilot and demonstration programs, with findings in the forms of educational lessons posted in a digital depository—much like the Best Evidence Encyclopedia (BEE) at the Johns Hopkins University.\textsuperscript{212} As the BEE website indicates, it is “intended to give educators and researchers fair and useful information about the strength of the evidence supporting a variety of programs available for students in grades K-12.”\textsuperscript{213} This approach is consistent with the Education Sciences Reform Act of 2002, which was established to link sound scientific

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{207} The purposes of the Teacher Quality Partnership program are to: improve student achievement; improve the quality of new prospective teachers by improving the preparation of prospective teachers and enhancing professional development activities for teachers; hold teacher preparation programs at institutions of higher education accountable for preparing highly qualified teachers; and recruit highly qualified individuals, including minorities and individuals from other occupations, into the teaching force.
\item \textsuperscript{208} See \textit{Federal Grant Will Expand University’s Innovative Teacher Preparation Program}, \textsc{UChicagoNews} (Mar. 30, 2010), http://news.uchicago.edu/article/2010/03/30/federal-grant-will-expand-university-s-innovative-teacher-preparation-program.
\item \textsuperscript{209} \textit{Id}.
\item \textsuperscript{210} \textit{Id}.
\item \textsuperscript{211} \textit{Id}.
\item \textsuperscript{212} See \textit{Best Evidence Encyclopedia}, http://www.bestevidence.org (last visited Dec. 18, 2013).
\item \textsuperscript{213} \textit{About the Best Evidence Encyclopedia}, \textit{Best Evidence Encyclopedia}, http://www.bestevidence.org/aboutbee.htm (last visited Dec. 18, 2013).
\end{itemize}
\end{footnotesize}
research to education practices. Here, a special digital depository would be supported to aid in educational support services including intervention strategies to address students with disabilities—especially racial minority students from high-poverty urban districts.

C. Incorporate University Partnerships and an Academic Focus

Universities, particularly research universities, may serve as good partners to investigate education services and assessment of students with disabilities. For instance, research universities have carried out many studies on student learning progress based on intervention programs to aid students with disabilities. Research universities tend to maintain a community outreach priority, which may align well with their goals to examine learning support approaches to students with disabilities. Several universities have already created programs focused on improving education and value measures of racial minorities and economically disadvantaged students who, as has been explained above, are often categorized as students with disabilities.

One significant way in which urban school districts may partner with research universities is through focused teaching labs for teacher preparation and special education certification and degree programs. Immersion with the students in the school context will likely enhance

214. See Frederick J. Brigham et al., Research in the Wake of the No Child Left Behind Act: Why the Controversies Will Continue and Some Suggestions for Controversial Research, 29 BEHAV. DISORDERS 300 (2004) (highlighting biases in educational practices so educators understand the challenges associated with scientific validation of practices as required under NCLB).

215. See discussion supra Part III.

216. This goal was the original interest in the early federal support of special education. See discussion supra Part I.B.

217. Cf. Russell Gersten et al., Designing High-Quality Research in Special Education: Group Experimental Design, 34 J. SPECIAL EDUC. 2 (2000) (suggesting that educational researchers consider several practices to create good study designs when investigating the effects of learning interventions for special education students).

teacher qualification.\textsuperscript{219} The incentives for college students, who are teacher education candidates, may include loan forgiveness programs,\textsuperscript{220} hands-on teaching experience increasing employability, and capacity to enact direct change in the lives of students with disabilities.\textsuperscript{221} For the university, this relationship offers multiple benefits. It would establish a university-school partnership. It would likely increase federal grant productivity. It would provide opportunities for researchers to create effective assistive technologies, which would under the Bayh-Dole Act leave the patent rights with the university.\textsuperscript{222} It offers a learning lab for the college students and presents opportunities for educational researchers to forward new approaches. Further, for both research universities and teacher education candidates, the special education training should include a more noticeable focus on math and science from an urban perspective.\textsuperscript{223}

**CONCLUSION**

Many efforts have been forwarded since the 1960s to support students with disabilities. More recently, innovative and successful intervention programs have supported learning in the language arts, reading, social studies, and to some extent in math. Nonetheless, this Article presents data that reflects a growing divide on support for students with disabilities.\textsuperscript{224} Indeed, national policies have directed attention on increasing math and science proficiency of school children. This policy movement is not surprising given the evidence that twenty-first century skills call for citizens (particularly those citizens in the workforce) to function with science and math skills. Nonetheless, as this Article indicates, the proficiency levels in these subjects present abysmal scores, most particularly for African-American and Hispanic students with disabilities from urban high poverty districts.\textsuperscript{225} Based on state data in Ohio, the data display

\begin{itemize}
\item \textsuperscript{219} Cf. Mary T. Brownell et al., *Critical Features of Special Education Teacher Preparation: A Comparison With General Teacher Education*, 38 J. SPECIAL EDUC. 242, 245 (2005).
\item \textsuperscript{221} See Brownell et al., supra note 219.
\item \textsuperscript{222} See Bayh Dole Act, 35 U.S.C. § 200 (2012).
\item \textsuperscript{223} See supra Part IV.A.
\item \textsuperscript{224} See supra Part III.
\item \textsuperscript{225} See supra Part II.
\end{itemize}
evidence of a serious disability divide—one that challenges society with a new form of societal stratification and presents obstacles for both educators and parents. 226 Several recommendations have been presented to combat this disability divide (e.g., examining progress by value added and not using the discrepancy model, infusing more federal dollars especially in the form of competitive grants, and establishing a digital depository of quality programs, and partnering with research universities).

Ultimately, these action items present viable policy modifications for the IDEA. The timing is important given that Congress is expected to reauthorize IDEA in 2014. By adopting these recommendations, policymakers will address a societal problem of the disability divide. That is, policymakers may combat a social problem so racial minorities from urban high poverty districts are not further stratified into the disability divide by having weaker performance levels in math and science. These two core subject areas have not received as much attention, yet they reflect functional capacities for twenty-first century workforce skills.

226. See supra Part III.