BRIDGING THE DIGITAL DIVIDE IN EDUCATION THROUGH THE EVERY STUDENT SUCCEEDS ACT

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ABSTRACT

Technology companies have a foothold in more schools than ever before. New educational technology (edtech) trends have already and will continue to bring significant improvements to the classroom and learning experience. Access to more technology resources at school is generally associated with higher student achievement, and learning technological skills is vital to children's development and later job marketability. However, only some children have access to these powerful tools—unsurprisingly, those children are found in predominantly white and affluent school districts, exacerbating the digital divide. This problem has only grown during the COVID-19 pandemic, which forced students across all demographic and socioeconomic groups online. Many children of color and children of lower socioeconomic status are being left behind in acquiring skills needed for 21st century life, emphasizing the digital divide within K–12 education.

The Elementary and Secondary Education Act (ESEA) has provided federal funding to school districts, primarily based on poverty levels, since 1965. The newest iteration, the Every Student Succeeds Act (ESSA), allocates funding to a three-pronged grant—one of these categories is the "effective use of technology." Educators and scholars applauded the ESSA as a step forward for equity in edtech when it was passed in late 2015. However, five years later, it is not entirely clear whether the ESSA actually mitigates the digital divide and promotes equity in edtech. This Note argues that equitable funding for edtech resources must be a top priority moving forward. The Note recommends that, to continue working toward bridging the digital divide in education, the next amendments of the ESEA should provide edtech funding in

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its own category, ensure sufficient and secure funding, and improve data collection practices.

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INTRODUCTION

The disparate allocation of education resources along racial and class lines is a disturbing part of the United States' history—and its present. A 2019 study found that predominantly nonwhite school districts receive $23 billion less than predominantly white districts, even though they serve the same number of children.[1] Other studies have found that schools with more low-

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[1] *$23 Billion*, EDBUILD 2, 3, https://edbuild.org/content/23-billion/full-report.pdf (last visited Apr. 23, 2021) (defining "white" school districts as more than 75 percent white and "nonwhite" school districts as more than 75 percent nonwhite) [https://perma.cc/4APD-9NF2].

income and minority students receive fewer educational resources than higher-income, predominantly white schools within the same district.[2] These funding disparities manifest in "unequal distribution of teachers" and "dramatic differences in courses, curriculum materials, and equipment."[3]

Modern education emphasizes and exacerbates these discrepancies. Today, technology companies have a more influential role in schools than ever before. In fact, in 2019, the global education technology[4] (edtech) market size was valued at $76.4 billion and was hypothesized to grow at a rate of 18.1% from 2020–2027.[5] New edtech trends are emerging and expected to bring huge improvements to education.[6] For instance, personalized learning tools allow students to exert more agency, independence, and collaboration over their learning. Immersive learning can allow students to actively participate in virtual experiences they would not otherwise have access to.[7] Most urgently, the COVID-19 pandemic has brought the depth of these disparities to the forefront by demonstrating how different a student's education can be with or without proper technology access and use.

We must not underestimate the power of technology in the classroom. First, access to more or better resources is generally associated with higher

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[2] *E.g.*, Linda Darling-Hammond, *Inequality in Teaching and Schooling: How Opportunity is Rationed to Students of Color in America*, in THE RIGHT THING TO DO, THE SMART THING TO DO: ENHANCING DIVERSITY IN THE HEALTH PROF: SUMMARY OF THE SYMP. ON DIVERSITY IN HEALTH PROF, IN HONOR OF HERBERT W. NICKENS, M.D., 208, 208 (2001), https://www.nap.edu/read/10186/chapter/9 [https://perma.cc/G2MW-E4CQ].

[3] *Id.* at 218–19.

[4] Scholars, policymakers, and educators refer to both "education technology" and "educational technology"; this Note will likewise use the two interchangeably.

[5] *Education Technology Market Size, Share & Trends Analysis Report by Sector (Preschool, K–12, Higher Education), By End User (Business, Consumer), By Type, By Region, And Segment Forecasts, 2020–2027*, GRAND VIEW RSCH. (Jul. 2020), https://www.grandviewresearch.com/industry-analysis/education-technology-market#:~:text=The%20global%20Education%20Technology%20(EdTech,USD%2089.1%20billion%20in%202020.&text=The%20K%2D12%20segment%20dominated,in%20the%20K%2D12%20sector [https://perma.cc/TRD3-37W7]. This estimate was supplied before the COVID-19 pandemic forced schools across the country online, which further increased reliance on edtech.

[6] *See, e.g.*, Bernard Marr, *The Top 5 Tech Trends That Will Disrupt Education in 2020 — The EdTech Innovations Everyone Should Watch*, FORBES (Jan. 20, 2020), https://www.forbes.com/sites/bernardmarr/2020/01/20/the-top-5-tech-trends-that-will-disrupt-education-in-2020the-edtech-innovations-everyone-should-watch/#298a7f622c5b [https://perma.cc/9W8L-S7HC].

[7] *See, e.g.*, Mae Rice, *13 EdTech Applications You Should Know*, BUILTIN, https://builtin.com/edtech/technology-in-classroom-applications (last updated Dec. 13, 2019) (describing access to virtual lab experiments and simulations) [https://perma.cc/VAS5-T7JK].

student achievement; [8] this is equally true with technology resources. [9] Children who use edtech demonstrate greater levels of confidence, motivation, and independence in their education. [10] Second, classroom technology can have a ripple effect in "ensuring that all young people are digitally included."[11] Society often assumes that individuals can simply learn digital skills on their own.[12] This is not the case—left with little or no access to technology and few support networks, young people are unlikely to successfully develop digital skills or see the value in the Internet.[13] This is particularly salient today, as technological skills are an increasingly important asset in employability. The entire issue becomes a vicious cycle: Professors Claudia Goldin and Lawrence Katz cite "the education system's fail[ure] to keep pace with technological innovation and the rising demand for higher-level skills" as a cause of the rising income gap.[14] Indeed, "[s]tudents have a necessity, and some would say a right, to learn the computer skills demanded by the job market."[15]

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[8] *See generally* Rob Greenwald, Larry V. Hedges & Richard D. Laine, *The Effect of School Resources on Student Achievement*, 66 REV. OF EDUC. RSCH. 3 (1996).

[9] *See generally* Brian Host, *Does Using Technology in the Classroom Improve Student Outcomes?*, TECHN. (May 30, 2019), https://educationtechnologysolutions.com/2019/05/technology-classroom-improve-student-outcomes/ [https://perma.cc/WJ6L-33CP]; Bianca C. Reisdorf, Whisnu Triwibowo, & Aleksandr Yankelevich, *Laptop or Bust: How Lack of Technology Affects Student Achievement*, 64 AM. BEHAV. SCI. 7, 927 (2020).

[10] *See, e.g.*, Larry Gallagher & Jessica L. Mislevy, *Research on the Use of Khan Academy in Schools: Research Brief*, SRI 12–16 (Mar. 2014), https://www.sri.com/wp-content/uploads/pdf/2014-03-07_implementation_briefing.pdf (reporting that students spending more time on education website with free courses experienced higher confidence in their math skills) [https://perma.cc/YQ26-ZQT8]. *Cf.* Katrina Woodworth, Eric Greenwald, Naomi Tyler & Meghan Comstock, *Evaluation of the First Year of the Oakland Blended Learning Pilot*, SRI EDUCATION 41 (Nov. 2013), https://www.sri.com/wp-content/uploads/pdf/oaklandblendedlearningpilot_nov2013.pdf (finding that teachers in hybrid-learning program reported that students were highly engaged and were taking ownership of their own learning) [https://perma.cc/7R9C-EUAZ]; VERAQUEST, INC., *Teacher Technology Usage*, Presentation Prepared for PBS, PBS LEARNINGMEDIA 8, https://docplayer.net/14184496-Teacher-technology-usage.html (last visited Apr. 20, 2021) (finding that 74% of teachers believe that technology benefits students by motivating them to learn) [https://perma.cc/V3K3-48T7].

[11] Anthony H. Normore & Antonia I. Lahera, *Introduction* to CROSSING THE BRIDGE OF THE DIGITAL DIVIDE, at xv (2018).

[12] *Id.*

[13] *Id.*

[14] Phillip Brown & Ewart Keep, *Rethinking the Race Between Education & Technology*, XXXV ISSUES IN SCI. & TECHN. 1 (2018) (citing Claudia Goldin & Lawrence F. Katz, THE RACE BETWEEN EDUCATION AND TECHNOLOGY (2010)), https://issues.org/rethinking-the-race-between-education-technology [https://perma.cc/XXY6-B8UQ].

[15] Normore, *supra* note 11, at xvi; *see also id.* ("[I]ndividual experiences, shaped very much by the wider social structure of which they are part, show how young people cannot simply

Edtech resource inequities track the resource allocation inequities of traditional education tools along racial and socioeconomic lines. Those lines are blurred and are only becoming blurrier: though the overall percentage of children living in poverty has been on a downward trend since 2010, the gap between Black and white students living in poverty has actually increased.[16] In 2010, Black children were 2.9 times more likely than white children to live in poverty; in 2018, Black children were 3.2 times more likely.[17] Though not a fool-proof proxy, analyzing data based on socioeconomic status allows us to glean some information on the racial divide, as is done throughout this Note. This "digital divide" in education is, like traditional education resource inequities, largely due to discrepancies in local wealth and state funding.[18]

Students in predominantly low-income schools not only are less likely to have access to technology tools, but also are less likely to experience integrative use of those technologies.[19] Many children do not have access at home or are not taught to use technology resources in an active, participatory manner, which is more beneficial for student learning and higher-order thinking. [20] The socioeconomic discrepancies correlate with racial discrepancies: schools with high concentrations of white students are more likely to integrate technology in "student-controlled activities,"[21] whereas students of color are more likely to use technology for remedial, "skills and drills" work.[22]

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be left to learn digital skills by themselves and that intervention is required to try to address some of the digital inequalities apparent in younger generations. This is part of the basic entitlement of every citizen, in every democracy in the world, to freedom of expression and the right to information. It is instrumental in building and sustaining democracy. Many policy makers and educator [sic] view these skills as critical to the creation of an equitable global 'Information Society' in which both developed and developing nations can share in social and economic development.").

[16] NAT'L CTR. FOR EDUC. STATS. AT IES, *The Condition of Education 2020*, 5 fig. 3 (May 2020) [hereinafter *The Condition of Education 2020*], https://nces.ed.gov/pubs2020/2020144.pdf [https://perma.cc/5JDN-S8UA].

[17] *Id*.

[18] *See infra*, Part II.

[19] *See* Julie M. Reinhart, Earl Thomas & Jeanne M. Toriskie, *K–12 Teachers: Technology Use and the Second Level Digital Divide*, 38 J. OF INSTRUCTIONAL PSYCH. 3/4, 181, 190–91 (2011).

[20] U.S. DEP'T OF EDUC., OFF. OF EDUC. TECH., REIMAGINING THE ROLE OF TECHNOLOGY IN EDUCATION: 2017 NATIONAL EDUCATION TECHNOLOGY PLAN UPDATE 21 (Jan. 2017) [hereinafter 2017 NATIONAL EDUCATION TECHNOLOGY PLAN UPDATE], https://tech.ed.gov/files/2017/01/NETP17.pdf [https://perma.cc/Z4KJ-N3QH].

[21] Tina N. Hohlfeld, Albert D. Ritzhaupt, Kara Dawson & Matthew L. Wilson, *An Examination of Seven Years of Technology Integration in Florida Schools: Through the Lens of the Levels of Digital Divide in Schools*, 113 COMPUTS. & EDUC. 135 (2017).

[22] Paul Gorski, *Education Equity and the Digital Divide*, 13 AACE J. 3, 12 (2005) [hereinafter Gorski, *Education Equity*].

Since 1965, the federal government has attempted to equalize education opportunities through federal funding allocations based on poverty levels in the Elementary and Secondary Education Act (ESEA).[23] The newest reauthorization of that Act, the Every Student Succeeds Act (ESSA), provides more funding to education technology than it ever has in the past. The relevant ESSA provision, Title IV-A, established the Student Success and Academic Enrichment (SSAE) grant, which allocates funding to schools to promote three purposes: safe and healthy schools, well-rounded educational opportunities, and the effective use of technology.[24]

Upon its passage, many in edtech circles were excited about the ESSA's potential to improve edtech in schools.[25] However, five years after its passage, there is insufficient demographic data to determine whether the ESSA promotes edtech for *all* students—in other words, whether it helps to close the digital divide.[26] Furthermore, the ESSA's effectiveness in mitigating the digital divide is hampered by the law's limitations on grant use, which disincentivize districts serving students of color from using the funds toward edtech.[27]

Edtech is a somewhat amorphous term. Some use the term loosely, to encompass anything that has to do with schools and technology. This definition could include anything from video surveillance systems to natural language processing programs utilized to identify students in need of counseling. This Note uses "edtech" interchangeably with "digital learning," which the ESSA defines as "any instructional practice that effectively uses technology to strengthen a student's learning experience and encompasses a wide spectrum of tools and practices." [28] This may include any of the following: interactive resources, digital content, software or simulations; access to online databases and primary-source documents; use of data and information to personalize learning and provide targeted supplementary instruction; online and computer-based assessments; learning environments that promote collaboration and communication; hybrid or blended learning

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[23] U.S. DEP'T OF EDUC., *Improving Basic Programs Operated by Local Educational Agencies (Title I, Part A)* [hereinafter, *Improving Basic Programs*]. https://www2.ed.gov/programs/titleiparta/index.html (last updated Oct. 24, 2018) [https://perma.cc/Z6YR-VCRU].

[24] Every Student Succeeds Act § 3101, 20 U.S.C. § 7111 (2018).

[25] *See* Doug Mesecar, *Education Technology in the Every Student Succeeds Act*, AM. ACTION F. (Dec. 21, 2015), https://www.americanactionforum.org/insight/education-technology-in-the-every-student-succeeds-act/ [https://perma.cc/A8TW-FQUE].

[26] *See infra* Section IV.A.

[27] *See infra* Part IV.

[28] CTR. FOR DIGIT. EDUC., ESSA, EDTECH AND THE FUTURE OF EDUC, 10 (2017), http://www.setda.org/wp-content/uploads/2017/03/CDE17_HANDBOOK_ESSA_V.pdf [https://perma.cc/D3ND-FEV8].

models; and access to online courses for students in rural areas.[29] The common thread among these examples is the *integration* of technology into education, rather than merely teaching certain technology skills through, for example, a weekly computer lab. The integrative approach is substantially more effective for improved education and higher-order skillsets.[30]

A few comments situating the scope and value of this Note are warranted. First, many educators scoff at the idea of improving technology in the classroom; in many school districts with low socioeconomic status, edtech can feel like a pipe dream. In some districts, schools still struggle to provide transportation, meals, and safety. How can we possibly think of providing edtech to these students when these other needs are not yet met? Of course, getting students to school, feeding them, and keeping them safe are imperative goals, but that does not explain why schools have to choose between providing basic needs and providing a quality, modern education. If we cannot provide both of these things to students, then schools are not sufficiently funded or are not funded for the right initiatives across the board. Students from both poor and rich schools live in the same technology-focused world and job market. Learning from and with technology is no longer a luxury; it is fundamental to becoming a functional member of nearly all aspects of society. This was true long before COVID-19 forced students online, but the pandemic underscored this point. Thus, this Note operates on the premise that as a general matter, we cannot keep shortchanging education. However, the Note itself and its contribution are more narrowly focused on the importance of edtech funding specifically: why policymakers should be seriously worried about the inequities in edtech and how they might address them.

Second, at the other end of the spectrum, some raise concerns that as lower-income schools increase access to technology, high-income parents are demanding the *removal* of tech in schools. One pediatrician and parent in Kansas City made the following statement to the New York Times:

Our kids, my kids included, we are subjecting them to one of the biggest social experiments we have seen in a long time . . . What happens to my daughter if she can't communicate over dinner — how is she going to find a spouse? How is she going to interview for a job?[31]

The equity concern is that "the children of poorer and middle-class parents will be raised by screens, while the children of Silicon Valley's elite will be going back to wooden toys and the luxury of human interaction."[32] If

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[29] *Id.*

[30] Reinhart et al., *supra* note 19, at 191.

[31] Nellie Bowels, *The Digital Gap Between Rich and Poor Kids Is Not What We Expected*, N.Y. TIMES (Oct. 26, 2018), https://www.nytimes.com/2018/10/26/style/digital-divide-screens-schools.html [https://perma.cc/Q8GV-9QF7].

[32] *Id.*

we envision one world in which children experience little or no technology and another world in which children are "raised by" technology, we are certain to see discrepancies among the two worlds. However, right now, it is impossible to label one as better or worse. In either scenario, the children gain something and lose something. Moreover, the notion of being "raised by screens" as used in popular discourse implies that children in low-income homes and schools are set up in front of an iPad or television and passively absorb the media.[33] That type of technology use in schools is precisely *not* what this Note supports.[34] Nor does this Note recommend that schools implement an all- or almost-all-technology curriculum. Rather, the Note advocates for the thoughtful integration of technology tools that engage students in active participation. Accordingly, the all-or-nothing, "raised by screens" versus "going back to . . . the luxury of human interaction" dichotomy is not at work here.

Third, edtech is not the first issue to come to mind in typical discourse about structural inequality. Conversations about structural inequality most frequently elicit discussions on police reform, prison reform, health care, housing, and job opportunity. Even in the education equity sphere, people usually think of standardized tests, discipline, and school choice. But the previous paragraphs (as well as *infra* Part I) should make clear how inequities in edtech can exacerbate existing economic and opportunity gaps by excluding an entire group of children from gaining necessary skills, a quality education, and ultimately, employment. For those students who do not have access to technology at home, or whose home use is limited to passive engagement, "[p]ublic schools can serve as the bridge to close the digital divide."[35]

Part I will further discuss the digital divide—the difference in access to, use of, and support for technology based on race and income—in the education space. Part II will analyze why this equity gap exists in the education space, focusing on local wealth disparities and state funding. Part III will discuss one of the ways in which the federal government has responded, by tracing the ESEA from 1965 through 2015. This Part will focus on the ESSA and the SSAE grants, discussing their contours and primary beneficiaries. Part IV identifies areas in which we need more data to fully assess the SSAE grants' equity impact. Then, Part V conducts an analysis of the grant program based on the available data, critiquing the structure inasmuch as it provides for

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[33] *See, e.g.*, Qin Chen, *The Hidden Costs of Letting Your Children be Raised by Screens and Smart Devices*, CNBC (Feb. 23, 2018), https://www.cnbc.com/2018/02/22/the-hidden-costs-of-letting-your-children-be-raised-by-screens-and-smart-devices.html ("To many parents, smartphones and iPads are wonderful babysitters — a funny Youtube video playing on a screen can work miles better than any pacifier or nanny.") [https://perma.cc/UF5K-A89Q].
[34] *See infra* Part I.B.
[35] Normore, *supra* note 11, at xvi.

more flexibility for higher-income districts and caps infrastructure spending for districts that need it most.

The ESSA is due for reauthorization at the end of the 2020–2021 school year, but this target will likely be delayed due to competing demands in Congress. In the meantime, children from marginalized communities will continue to suffer from a lackluster education. Part V therefore underscores the need for increased federal attention to equity in edtech at this vital time, particularly with the approaching reauthorization date and recent administration turnover. Part V also explores policy proposals to improve the ESSA's impact in the digital equity sphere.

I.   THE DIGITAL DIVIDE

The digital divide refers to the difference in access to technology and knowledge of technology between groups of people.[36] Scholars and educators have analyzed the digital divide in different ways.[37] This Part will discuss the digital divide in education regarding access, use, and teacher development.

A.   Discrepancies in Internet Access at Home and at School Disproportionately Affect Minority Studies

The first question when considering the digital divide is access: who has access to technology and where do they have access? Since the widespread distribution of Internet access, white people on average have had greater access to quality connectivity, computers, and other devices than people of color have had.[38] Many expected this divide to shrink rapidly, dubbing the Internet the "great equalizer,"[39] and were disturbed to see the gap

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[36] Raeal Moore & Dan Vitale, *High School Students' Access to and Use of Technology at Home and in School*, ACT CTR. FOR EQUITY IN LEARNING 1 (2018), https://www.act.org/content/dam/act/unsecured/documents/R1692-technology-access-2018-08.pdf [https://perma.cc/5A9V-Z6TY].

[37] Kitty Fortner, Anthony H. Normore & Jeffrey S. Brooks, *Digital Equity and its Role in the Digital Divide*, CROSSING THE BRIDGE OF THE DIGITAL DIVIDE 4 (2018).

[38] Paul Gorski & Christine Clark, *Multicultural Education and the Digital Divide: Focus on Race*, 3 MULTICULTURAL PERSP. 15, 15 (2001) [hereinafter Gorski, *Multicultural Education*].

[39] *See, e.g.*, Derek Thompson, *Tech Was Supposed to Be Society's Great Equalizer. What Happened?*, ATLANTIC (Sept. 30, 2018), https://www.theatlantic.com/technology/archive/2018/09/tech-was-supposed-to-be-societys-great-equalizer-what-happened/571660/?gclid=Cj0KCQiAqdP9BRDVARIsAGSZ8AmwuDsVYgM4tn-zd_apsC1mJOqYn8IaDXOedkOMLLpaf_BKsehO564aAiK8EALw_wcB (discussing the "great equalizer" in context of gender) [https://perma.cc/6VMN-LA5A].

widen as technology began to infiltrate our lives.[40] Worse, as the COVID-19 pandemic swept across the country and schools tried to implement remote learning, we quickly learned that there was still a stark difference between the "haves" and "have nots."[41]

One study found that 30% of all K-12 public school students live in homes without a sufficient Internet connection and device for distance learning at home during the pandemic. [42] Minority students are disproportionately affected by this lack of access: 31% of Black households, 31% of Latinx households, and 34% of American Indian/Alaska Native households lack high-speed home Internet.[43] This is in stark contrast with only 21% of white households and 12% of Asian households.[44] Likewise, 16 to 17% of Black, Latinx, and American Indian/Alaska Native households do not have a home computer, compared with only 8% of white households and 4% of Asian households.[45] Thus, lower-income, Black, and Hispanic children are more likely to struggle.[46]

A McKinsey & Company report from June 2020 found that, assuming school resumed in January 2021, students would see an average learning loss of seven months from the pandemic—but that "[B]lack students may fall behind by 10.3 months, Hispanic students by 9.2 months, and low-income students by more than a year."[47] The study estimated that this could exacerbate existing achievement gaps by 15 to 20%.[48]

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[40] Gorski, *Multicultural Education*, *supra* note 38, at 15.

[41] *See, e.g.*, Christine Sloan, *COVID Crisis Exposes Educational Inequities Between Haves and Have Nots*, INSIDER NJ (Aug. 17, 2020), https://www.insidernj.com/covid-crisis-exposes-educational-inequities-nj/ [https://perma.cc/4DHE-UE57].

[42] *See* Michelle Fox, *supra* note 42. *See also* N.Y. CITY DEP'T OF EDUC., *Remote Learning Device Request* (last visited Dec. 8, 2020), https://coronavirus.schools.nyc/remotelearningdevices (finding that some school districts were able to provide devices for students during the pandemic, but the devices were typically provided on a temporary basis for remote learning during the pandemic) [https://perma.cc/MC5S-LJUR].

[43] Andrew Ujifusa, *1 in 3 American Indian, Black, and Latino Children Fall into Digital Divide, Study Says* (Jul. 22, 2020), https://www.edweek.org/education/1-in-3-american-indian-black-and-latino-children-fall-into-digital-divide-study-says/2020/07 [https://perma.cc/VJ5N-SNLX].

[44] *Id.*

[45] *Id.*

[46] *See* Michelle Fox, *supra* note 42.

[47] Emma Dorn, Bryan Hancock, Jimmy Sarakatsannis & Ellen Viruleg, *COVID-19 and Student Learning in the United States: The Hurt Could Last a Lifetime*, MCKINSEY & CO. (Jun. 1, 2020), https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-student-learning-in-the-united-states-the-hurt-could-last-a-lifetime [https://perma.cc/8DMY-QMYP].

[48] *Id.*

The racial access gap will not be resolved when students go back to school full-time. Even when the majority of learning occurs in the classroom, at-home access to technology is often necessary to complete assignments. Access to a textbook at school is great, but if the students cannot bring that textbook home, they will not be able to complete homework assignments and will be unprepared for class the following day, falling behind. The same is true of Internet access and devices in education today. This "homework gap,"[49] too, disproportionately affects Black students, as they are the students least likely to have Internet access. In the last few years, there have been increases in community access to computers and Wi-Fi (typically in libraries and community centers), but still, "students that have to travel away from home to complete their homework are at a clear disadvantage compared to those who do not."[50]

There are also access disparities along racial lines in the classroom. In 2001, schools that primarily served students of color were nearly one-third less likely to have classroom-level Internet access than their counterparts at predominantly white schools.[51] Of those high-minority schools that did have access, many had access only in "outdated, incompatible, and unreliable computers."[52] By 2017, the at-school access gap had shrunk, but access to technology "continues to plague US schools"[53]: while 67.3% of white children used the Internet at school, only 60.2% of Black students could say the same.[54] In 2019, only 32% of Black students had one-to-one devices at school, compared to 44% of white students.[55] These discrepancies in access are even

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[49] Jessica Rosenworcel, Opinion, *How to Close the 'Homework Gap*,' MIAMI HERALD, Dec. 5, 2014, https://www.miamiherald.com/opinion/op-ed/article4300806.html [https://perma.cc/MW52-J7QB].

[50] *CoSN's 2018–2019 Annual Infrastructure Report*, CoSN, IN P'SHIP WITH AASA, MDR, AND FORECAST5 ANALYTICS 15 (2017), https://www.cosn.org/sites/default/files/CoSNs%202018%202019%20Annual%20Infrastructure%20Survey%20Report%20final_0.pdf [https://perma.cc/PM3T-R482].

[51] Gorski, *Education Equity*, *supra* note 22, at 12.

[52] *Id*.

[53] Fortner et al., *supra* note 37, at 3.

[54] NAT'L CTR. FOR EDUC. STATS. AT IES, *Table 702.20: Percentage of Children Ages 3 to 18 Who Use the Internet and, Among Those Who Use the Internet, Percentage Using it in Various Locations, by Selected Child and Family Characteristics: 2011 and 2017*, DIG. OF EDUC. STATS. (last visited Dec. 8, 2020), https://nces.ed.gov/programs/digest/d18/tables/dt18_702.20.asp?current=yes [https://perma.cc/Q6AS-DEF6].

[55] GALLUP, *Education Technology Use in Schools: Student and Educator Perspectives*, NEWSCHOOLS VENTURE FUND 9 (2019), http://www.newschools.org/wp-content/uploads/2019/09/Gallup-Ed-Tech-Use-in-Schools-2.pdf [https://perma.cc/JE7Q-QXND].

further exacerbated when understood in conjunction with technology use and teacher development.

B.   Technology Use and Teacher Development Vary by School Income Status

Access to basic technological infrastructure, or lack thereof, is only the first layer of inequity. On its own, access to infrastructure does not ensure access to an engaging, quality education.[56] There is a disparity regarding how students use the technology. Some students "use technology to create, design, build, explore, and collaborate," while others "simply use technology to consume media passively."[57] While the former often enhances a student's learning experience and improves technological literacy, the latter makes no such guarantees.[58]

One study found that high-income students typically use technology to develop higher-order skillsets through student-controlled activities, going beyond teaching basic technological literacy.[59] One example is through personalized learning, in which "the pace of learning and the instructional approach are optimized for the needs of each learner."[60] Personalized learning allows students who need additional support to re-watch the content as needed and receive immediate, personalized feedback.[61] Encouraging students to move at their own pace and work through issues on their own or with their classmates encourages independence, collaboration, and agency in the students' learning.[62]

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[56] 2017 NATIONAL EDUCATION TECHNOLOGY PLAN UPDATE, *supra* note 20, at 20.
[57] *Id.*
[58] U.S. COMM'N ON C.R., *Public Education Funding Inequity in an Era of Increasing Concentration of Poverty and Resegregation, Briefing Report 48* (Jan. 2018), https://www.usccr.gov/pubs/2018/2018-01-10-Education-Inequity.pdf [https://perma.cc/GHK2-GZ25].
[59] Reinhart et al., *supra* note 19, at 191; Hohlfeld et al., *supra* note 21, at 135.
[60] 2017 NATIONAL EDUCATION TECHNOLOGY PLAN UPDATE, *supra* note 20, at 9. The concept of personalized learning is not particularly new. *See* Mesecar, *supra* note 25 (discussing Benjamin Bloom's 1984 findings that students given one-on-one instruction consistently and substantially outperformed their peers in a regular classroom); Shear, *Using Technology to Personalize Learning in K–12 Schools*, SRI INT'L (Nov. 1, 2018), https://www.sri.com/publication/using-technology-to-personalize-learning-in-k-12-schools/ [https://perma.cc/22KJ-C8JK] ("Personalized learning . . . has been a centerpiece of education for students with disabilities for several decades."). However, recently, the advent of personalized learning technologies has made this powerful approach to education more accessible. Mesecar, *supra* note 25.
[61] Gallagher et al., *supra* note 10, at 10.
[62] *Id.*, at 4; Woodworth et al., *supra* note 10, at 4.

By contrast, low-income students and students of color generally use technology for drill, practice, or remedial work.[63] Professor Paul Gorski refers to this as the "skills and drills" and "digital flashcard" approach to learning."[64] One study found that, in low-income schools, teachers "only provided instructional support, and guidance for student use of technologies in the most basic ways."[65] Indeed, 39% of teachers in low-income areas say their school is lagging behind others in effectively using digital tools in the learning process, compared to only 15% of teachers of higher-income students.[66]

This issue goes hand-in-hand with teacher development in the edtech space, or lack thereof. As discussed above, to successfully integrate technology, teachers must integrate the use of technology into their approach to learning and help their students develop problem-solving and analytical skills.[67]

This is not a simple task—experts recommend "continuous, just-in-time support that includes professional development, mentors, and informal collaborations."[68] Yet many teachers receive little or no formal training in this area. In schools where students of color encompass 50% or more of enrollment, only 70% of teachers have been trained in this area and 65% have assistance (e.g., through an onsite technology specialist).[69] Consistent with the digital divide, in schools where students of color encompass only 6% or less of enrollment, 82% of teachers have been trained and 76% have access to assistance.[70] Likewise, teachers in schools with high enrollments of students of color are less likely to have access to the resources they need to incorporate technology into their instruction.[71] Indeed, while 70% of teachers who work in high-income schools say that their school does a "good job" of providing teachers the resources and support they need to incorporate digital tools in the classroom, merely 50% of teachers working in low-income areas say the same.[72]

These disparities cannot be discounted. Approximately half of teachers "say that lack of training is one of the biggest barriers to incorporating

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[63] Hohlfeld et al., *supra* note 21, at 135.

[64] Gorski, *Education Equity*, *supra* note 22, at 12.

[65] Reinhart et al., *supra* note 19, at 190–91.

[66] Kristen Purcell, Judy Buchanan & Linda Friedrich, *How Teachers are Using Technology at Home and in Their Classrooms*, PEW RSCH. CTR.: INTERNET & TECH. (Feb. 28, 2013), https://www.pewresearch.org/internet/2013/02/28/how-teachers-are-using-technology-at-home-and-in-their-classrooms [https://perma.cc/S3KE-L6TW].

[67] Reinhart et al., *supra* note 19, at 191–92.

[68] 2017 NATIONAL EDUCATION TECHNOLOGY PLAN UPDATE, *supra* note 20, at 28.

[69] Gorski, *Education Equity*, *supra* note 22, at 11–12.

[70] *Id*.

[71] *Id.* at 11.

[72] Purcell et al., *supra* note 66.

technology in their teaching."[73] Therefore, is it not surprising that low-income schools and schools serving many students of color report both low levels of teacher support and poor integration of technology. The two go hand-in-hand.

The digital divide negatively impacts multiple minority groups and low-income students of any race. This Note sometimes refers to "minority students," "students of color," or "low-income students" when the data support these larger generalizations. However, the Note primarily focuses on how the digital divide impacts Black students for two reasons. First, Black communities in the United States have been uniquely targeted by oppressive policies that impact education and education resources, including school segregation and lack of access to wealth creation. Second, there is comparatively little research conducted on the digital divide in other demographic groups. This is problematic and future research should continue to expand on our understanding of how the digital divide impacts American Indian/Alaska Native, Latinx, and other communities. Until then, this Note begins a conversation about how to fully leverage existing federal law to promote edtech equity for Black students with the hope that the analysis will be expanded as the scholarship in this area and access to data increase.

II.   LOCAL AND STATE DISCREPANCIES IN FUNDING DISPROPORTIONATELY AFFECT BLACK/MINORITY STUDENTS

These injustices can be traced, at least in part, to inequitable funding levels among districts. An entire paper could be written on the history and effect of local wealth variance on education quality—and indeed, many have been.[74] For the purposes of this Note, this Part will provide a brief discussion of how local wealth funding disproportionately affects Black student education and implicates inequitable access to edtech. Then, this Part will discuss how states have responded to local funding and edtech inequities.

Historically, school districts have been heavily funded by local property taxes. Today, approximately 45% of district funds come from local sources, 47% from state sources, and 8% from federal sources.[75] A remarkable

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[73] 2017 NATIONAL EDUCATION TECHNOLOGY PLAN UPDATE, *supra* note 20, at 28.

[74] *See generally* Martin S. Feldstein, *Wealth Neutrality and Local Choice in Public Education*, 65 AM. ECON. REV. 75 (1975); Gilbert J. Reilly, *Wealth Neutrality Revisited: Guaranteed Tax Base Formulas and Local Choice in Public Education*, 64 REV. OF ECON. & STATS. 553 (1982).

[75] *The Condition of Education 2020*, *supra* note 16, at 112 fig. 1. These numbers vary by state: In the 2016–2017 school year, the percentage of local school funding ranged from 2% in Hawaii and 4% in Vermont to 60% in Nebraska and 62% in New Hampshire. In D.C., 91% of revenue came from local sources and the remaining 9% came from federal sources. *Id.* at 114 fig. 2.

82% of those local revenues are still derived from local property taxes.[76] School funding based so heavily on local property taxes ensures that districts with greater wealth—and particularly high levels of home ownership—have better-funded schools. This approach disproportionately affects Black students: Black families have historically been excluded from the housing market, making it nearly impossible for Black families to secure wealth.[77] Indeed, even today, Black students are more than three times more likely to live in poverty than white students.[78] Accordingly, the property taxes in districts with high concentrations of Black students are low, and local school funding is proportionately low.[79]

The discrepancies in local funding are substantial. On average, American school districts spend $11,066 per pupil each year.[80] However, because poorer communities cannot generate nearly the same levels of funding for their schools as their wealthy counterparts, that number "fluctuates dramatically from district to district,"[81] ranging from $6,546 to $20,156 per pupil.[82] Nationally, nonwhite districts receive $2,226 less per pupil than white districts.[83] The discrepancy does not merely reflect fluctuation of price around the country: one study found that spending per pupil in Pennsylvania ranged from $8,700 in impoverished, rural districts to $26,600 in affluent suburbs.[84] Furthermore, the intersection of being nonwhite and poor results in substantially less funding than the intersection of being white and poor: poor nonwhite districts receive approximately $1,500 less per student than comparable poor white districts.[85]

The discrepancies are bad enough at face value. But exacerbating the problem is the fact that in many cases, low-income and minority students actually require a greater investment of money than their higher-income peers.[86] One estimate concluded that wealthy school districts in Connecticut

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[76] *Id*. at 115.

[77] DOUGLASS MASSEY & NANCY DENTON, *The Missing Link* in THE AMERICAN APARTHEID: SEGREGATION AND THE MAKING OF THE UNDERCLASS (1998).

[78] Jinghong Cai, *Black Students in the Condition of Education 2020*, NSBA (Jun. 23, 2020), https://www.nsba.org/Perspectives/2020/black-students-condition-education [https://perma.cc/E2HY-NB2J].

[79] MASSEY ET AL., *supra* note 77.

[80] U.S. COMM'N ON C.R., *supra* note 58, at 27.

[81] *Id.* at 14, 27.

[82] *Id.* at 27.

[83] *$23 Billion*, *supra* note 1.

[84] U.S. COMM'N ON C.R., *supra* note 58, at 50.

[85] *$23 Billion*, *supra* note 1.

[86] *See* Kevin Carey & Elizabeth A. Harris, *It Turns Out Spending More Probably Does Improve Education*, N.Y. TIMES: THE UPSHOT (Dec. 12, 2016), https://www.nytimes.com/2016/12/12/nyregion/it-turns-out-spending-more-probably-does-improve-education.html [https://perma.cc/9P7G-W45C].

would only need to spend $6,000 per pupil to get their students to average performance, and those districts spent over $17,000.[87] Unsurprisingly, the students in those districts outperform the national average.[88] By contrast, the most impoverished areas of Mississippi would need to expend over $26,000 per student to get their students to the national average, but spent only $9,000 per pupil.[89] Indeed, "[e]quity, after all, does not mean simply equal funding. Equal funding for unequal needs is not equality."[90]

It would be a behemoth of a task to comb through school budgets to determine how much local funding, if any, is spent toward edtech. Although this paper focuses on federal funding, predominantly Black school districts are substantially less likely to be able to leverage local funds to support any robust technology program than their white counterparts. This is supported by the fact that low-income and Black students are less likely to have access to technology and have knowledgeable teachers integrating it appropriately into the classroom, as discussed *infra* in Part I. This disparity, both generally and in support of technology, has prompted state and federal governments to respond.

As noted above, on average, states contribute 47% of school district funding, which is roughly equal to the amount contributed by local resources,[91] though the percentage contributed by states ranges from 33 to 90%.[92] The states that provide the greatest percentage of school funding generally rely the least on local funding, and vice versa. This is significant because the greater a state's contribution is in comparison to the local contributions, the more likely the state is mitigating the effect of local wealth disparities. For instance, Vermont schools are funded by a 90% state and 4% local contribution, whereas Nebraska schools are funded by a 33% state and 60% local contribution.[93] Vermont's model, which relies on a state property tax instead of local property taxes, has improved inter-district funding equity in the state.[94] By contrast, Nebraska's model, which has seen little change

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[87] Matt Barnum, *The Other School Funding Divide: States with More Poor Students Tend to Spend Less, Creating Hard-to-Fix Disparities*, CHALKBEAT (Jul. 31, 2019), https://www.chalkbeat.org/2019/7/31/21121027/the-other-school-funding-divide-states-with-more-poor-students-tend-to-spend-less-creating-hard-to-f [https://perma.cc/P2AA-FK23].

[88] *Id.*

[89] *Id.*

[90] JONATHAN KOZOL, SAVAGE INEQUALITIES: CHILDREN IN AMERICA'S SCHOOLS 66 (Jul. 24, 2012).

[91] *The Condition of Education 2020*, *supra* note 16, at 112.

[92] *Id*. at 114.

[93] *Id*.

[94] Satya Marar, *Vermont's School Funding Model Promotes Equity Across School Districts*, REASON FOUND. (Jun. 24, 2020), https://reason.org/commentary/vermonts-school-funding-

since 1990, has sparked critique and discussion among researchers, who see the current model as insufficient to address the needs of many students.[95]

The availability of government-sponsored, edtech-specific funding also varies considerably by state, as does the clarity and ease of access to those sources of funding. For example, New York provides a comprehensive list of "Funding Educational Technology" opportunities, which lists federal, state, and private funding sources.[96] The state website features a helpful chart that outlines which edtech funding sources can be used toward which types of expenditures.[97] The site lists four separate state-level edtech funding resources.[98] Further, in 2020, New York State provided $24.8 million for classroom technology and $19 million for school connectivity projects.[99] By contrast, the Arizona government's website is sparse in this area, and the most similar funding opportunities the Arizona government provides are funding for computer science instruction[100] and for rural STEM programs.[101] These

model-promotes-equity-across-school-districts/ ("This has since been confirmed by a review of Vermont's school finance system which found that the state meets or exceeds benchmark standards for U.S. state funding equity, that per-pupil funding is largely divorced from local property wealth, and that even schools with a high proportion of low-income students can produce significant improvements in learning outcomes over time.") [https://perma.cc/6C3H-DNL2].

[95] Chuck Brown, *How Nebraska Funds K–12 Education*, OPEN SKY POL'Y INST. (May 22, 2017), https://www.openskypolicy.org/opensky-releases-k-12-funding-report [https://perma.cc/4SZH-UA7A].

[96] *Funding Educational Technology*, N.Y. ST. DEP'T OF EDUC., http://www.nysed.gov/edtech/funding-educational-technology (last visited Dec. 12, 2020) [https://perma.cc/35LN-U5U9].

[97] *Funding Opportunities for Educational Technology*, N.Y. ST. DEP'T OF EDUC., http://www.nysed.gov/common/nysed/files/programs/edtech-draft/funding-opportunities-for-educational-technology.pdf (last updated Apr. 2020) [https://perma.cc/6QXX-K4AR].

[98] *Funding Educational Technology*, *supra* note 96.

[99] Michele Molnar, *New York State Districts Awarded $111 Million for Spending on Security, Ed-Tech and More*, EDWEEK MKT. BRIEF (Feb. 27, 2020), https://marketbrief.edweek.org/marketplace-k-12/new-york-state-districts-awarded-111-million-spending-security-ed-tech/#:~:text=State%20Awards%20%2445%20Million%20for,Spending%20Are%20Likely%20on%20Tap [https://perma.cc/JN63-E24D]. These funds were allocated from the $2 billion Smart Schools Bond Act, which provides funding for security, connectivity and technology equipment, and pre-K programs. *Id.*

[100] *Computer Science Professional Development Program*, ARIZ. DEP'T OF EDUC., https://www.azed.gov/standards-practices/k-12standards/compsci_prof-dev-program (last visited Dec. 12, 2020) [https://perma.cc/Z6CY-SB6Z].

[101] *Rural STEM Program Fund*, ARIZ. DEP'T OF EDUC., https://www.azed.gov/sites/default/files/2017/08/Rural%20STEM%20Program%20Fund.pdf?id=59a041ca3217e10788176775 (last updated Aug. 24, 2017) [https://perma.cc/F4XX-ZW8W].

differences demonstrate the variation in approaches to transparency in education .[102]

When considering state, local, and individual discrepancies in access and appropriate use of edtech, we see the following trends. Students of color, on average, have less access to local funds and are inordinately disadvantaged in the technology sphere. Some states mitigate these disadvantages through equity-focused funding, sometimes specifically geared toward edtech. Other states do not. In the states that do not provide substantial additional funding to local districts or encourage edtech funding through some type of grant program or other expenditure, students do not have equal access to edtech or equally integrated use of edtech. This means that, without federal funding supplementing local and state funding, some students will experience a modern, quality, and engaging education, while other students cannot even access a laptop to complete their homework.

III.   FEDERAL FUNDING OF EDTECH

The federal government has attempted to decrease the digital divide through various programs. Three statutory and regulatory federal provisions most explicitly encourage equity in edtech. First and most recently, the Coronavirus Aid, Relief, and Economic Security Act (the CARES Act) devoted $30.75 billion for education-related COVID-19 relief.[103] According to the Office of Educational Technology, "[t]here is much flexibility in how CARES Act funding can be spent, including to support technological capacity and access—including both hardware and software, connectivity, and instructional expertise—to support remote learning."[104] Second, the Federal Communications Commission's E-rate program provides schools and libraries discounts for Internet access, telecommunications services, and related equipment.[105] Third, Title IV-A of the ESSA provides a block grant to support three purposes, one of which is the effective use of technology.[106] This is by no means an exhaustive list. Indeed, "many other Federal formula and competitive grant programs allow funds to be used to support digital learning,

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[102] In the midst of the COVID-19 pandemic, many states and some cities stepped up to the plate to try to get as many students online as possible. However, given the number of students still without access in November 2020 (when many schools were still entirely or partially online, or were likely to return online shortly), the state and local efforts have clearly been insufficient to address the problem.
[103] OFF. OF EDUC. TECH., *Funding Digital Learning*, U.S. DEP'T OF EDUC., https://tech.ed.gov/funding/ (last visited Dec. 12, 2020) [https://perma.cc/7DYE-RQW9].
[104] *Id.*
[105] *E-rate*, UNIVERSAL SERV. ADMIN. CO., https://www.usac.org/e-rate/ (last visited Dec. 12, 2020) [https://perma.cc/XLW6-XWLS].
[106] 20 U.S.C. § 7114(b) (2018).

even if the program statutes do not reference educational technology explicitly."[107]

This Note focuses on the third federal program listed above, Title IV-A of the ESSA for two reasons: first, because it is the primary K–12 law in the United States;[108] and second, because of the attention it garnered in the edtech space upon its passage. This Part will trace the history of edtech from its inception through its current iteration in the ESSA. Then, it will outline the statutory scheme in the ESSA with particular emphasis on Title IV-A, the provision that provides the SSAE grants for edtech.

A.   Federal Involvement in EdTech Traces from the ESEA to the ESSA

In 1965, Congress passed the Elementary and Secondary Education Act (ESEA) as part of President Johnson's "War on Poverty."[109] The ESEA is "[t]he primary source of federal aid for elementary and secondary education," and the bulk of these funds are allocated for the education of disadvantaged students.[110] The purpose of its hallmark title, Title I, is to ensure equal educational quality and opportunity for all students.[111]

Since 1965, the ESEA has undergone a series of reauthorizations and amendments, three of which will be discussed here.

The original 1965 ESEA unsurprisingly did not have an edtech provision. The first reauthorization, the 1994 Improving America's Schools Act, created the very first federal program devoted to "ensuring universal access to information and communications technology for improved teaching and learning in the nation's schools."[112] The program grew during the Clinton

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[107] Joseph South, Director, OFF. OF EDUC. TECH., *Dear Colleague Letter*, U.S. DEP'T OF EDUC. (Jan. 18, 2017), https://tech.ed.gov/files/2017/01/2017.1.18-Tech-Federal-Funds-Final-V4.pdf [https://perma.cc/QLV2-KF2U].

[108] *See, e.g.*, *The Nation's Main K–12 Law: A Timeline of the ESEA*, EDUCATIONWEEK, https://www.edweek.org/policy-politics/the-nations-main-k-12-law-a-timeline-of-the-esea (last visited Feb. 23, 2021) [https://perma.cc/FV3Q-BMU6].

[109] Elementary and Secondary Education Act of 1965, Pub. L. 89–10 (codified as amended at 20 U.S.C. § 1001 *et seq.* (2015)); *The ABC's of ESEA, ESSA and No Child Left Behind*, EDUC. POST, https://educationpost.org/the-abcs-of-esea-essa-and-no-child-left-behind/ (last visited Apr. 7, 2021) [https://perma.cc/SV6F-SRJ9].

[110] *Id.*

[111] REBECCA R. SKINNER, CONG. RESEARCH. SERV., R45977, THE ELEMENTARY AND SECONDARY EDUCATION ACT (ESEA), AS AMENDED BY THE EVERY STUDENT SUCCEEDS ACT (ESSA): A PRIMER 1 (updated Aug. 18, 2020).

[112] Doug Levin, *U.S. K–12 Educational Technology Policy: Historical Notes on the Federal Role*, EDTECH STRATEGIES (Apr. 21, 2016) [hereinafter Levin, *Historical Notes on the Federal Role*], https://web.archive.org/web/20201205114401/https://www.edtechstrategies.com/blog/federal

administration, with allocations increasing from $200 million in 1997 to $450 million in 2001.[113]

In 2001, the second reauthorization, the No Child Left Behind Act, introduced a new edtech program: the Enhancing Education Through Technology (EETT) Act.[114] EETT funding began at $700.5 million in 2002,[115] but, appropriations decreased dramatically over the Bush and Obama administrations. By 2006, appropriations had decreased to $272.3 million, just 39% of the original funding level.[116] The stated rationale for eliminating the program was that by 2006, schools offered "a greater level of technology infrastructure than just a few years ago, and there is no longer a significant need" for a program dedicated specifically to integrating technology into schools.[117] In other words, the rationale was that edtech should no longer be a priority because schools had achieved a sufficient level of effective technology in the classroom. Though President Bush continued to request $0 for the EETT's appropriation, the appropriation levels hovered around $270 million from 2007 to 2009, with the exception of a $650 million special appropriation as part of the American Recovery and Reinvestment Act of 2009.[118] Thanks to that special appropriation, the Obama administration determined that there were sufficient funds available in 2010–2011, and only $100 million was appropriated.[119] The EETT program was virtually eliminated in 2012 with no replacement for several years.[120]

The third reauthorization is the Every Student Succeeds Act (ESSA), which President Obama signed into law in 2015.[121] The ESSA authorized a new edtech program in Title IV, Part A, and in 2017 created funding for it through the Student Support and Academic Enrichment (SSAE) grants.[122] The ESSA and its SSAE grants are due for reauthorization after the 2020–2021 school year.[123]

-history/ [https://perma.cc/44P8-TNK5?type=image]; Pub. L. 103-382, 108 Stat. 3965 (1994).

[113] *Id.*

[114] No Child Left Behind Act of 2001, Pub. L. 107–110 §§ 2401-41, 115 Stat. 1671 (2001).

[115] Levin, *Historical Notes on the Federal Role*, *supra* note 112.

[116] *Id.*

[117] *Id.*

[118] *Id.*

[119] *Id.*

[120] *Id.* Though Obama requested a replacement educational technology program in 2015, the proposal did not receive support from Congress. *Id.*

[121] 20 U.S.C. § 1001 *et seq.*; *see also Every Student Succeeds Act (ESSA): A Comprehensive Guide* [hereinafter *A Comprehensive Guide*], http://www.everystudentsucceedsact.org/ (last visited Apr. 21, 2021) [https://perma.cc/NW5D-FQZE].

[122] 20 U.S.C. § 7111; Levin, *Historical Notes on the Federal Role*, *supra* note 112.

[123] *A Comprehensive Guide*, *supra* note 121. Though the authorization expires at the end of this year, it would be surprising if Congress successfully reauthorized without delay. *See*

B.   The ESSA's Statutory Scheme Funds Edtech

The hallmark provision of the ESEA and its largest funding allocation, as amended by the ESSA, is Title I.[124] The purpose of Title I is "to provide all children significant opportunity to receive a fair, equitable, and high-quality education, and to close educational achievement gaps."[125] Title II focuses on the recruitment, quality, and retention of teachers, principals, and school leaders.[126] Title II also provides grants to support literacy education, American history education, and civic education programs.[127] Title III authorizes funding to improve the academic success of English language learners, including immigrant students.[128]

Title IV, which is the focus of this Note, authorizes funding for a range of activities. Title IV-A creates the SSAE grants,[129] which are block grants that local educational agencies can use to promote three purposes: (1) support well-rounded educational opportunities; (2) support safe and healthy students; and (3) support the effective use of technology.[130] These are formula grants, calculated based on a state's Title I-A funding from the previous year.[131] Title I-A grants, and therefore Title IV-A grants, are determined under four different formulas, but the primary factor is the estimated number of children between five and seventeen in families in poverty.[132] The remainder of Title IV supports a number of programs, including activities outside of school hours, charter school quality, and family engagement.[133]

Titles V and VI focus on specific subgroups of students, including students in rural communities and Indian, Native Hawaiian, and Alaska Native students.[134] Title VII compensates local educational agencies for the "financial

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Andrew M.I. Lee, *No Child Left Behind Comes to an End with the Passage of the Every Student Succeeds Act*, UNDERSTOOD (Dec. 10, 2015), https://www.understood.org/en/community-events/blogs/in-the-news/2015/12/10/no-child-left-behind-comes-to-an-end-with-the-passage-of-the-every-student-succeeds-act (discussing 13-year delay in the ESEA's reauthorization after the NCLB, and ultimate switch to ESSA) [https://perma.cc/Q2KL-AW4P].

[124] Alyssa Thornley, *ESSA Basics: What are Title I and Title III?*, TRANSACT BLOG (May 24, 2017), https://www.transact.com/blog/essa-basics-what-are-title-i-and-title-iii [https://perma.cc/L57N-A3B2].

[125] 20 U.S.C. § 1001.

[126] SKINNER, *supra* note 110, at 10.

[127] *Id.*

[128] *Id.* at 12.

[129] 20 U.S.C. § 7114.

[130] *Id.* at § 7114(b).

[131] SKINNER, *supra* note 110, at 14.

[132] *Id.* at 3.

[133] *Id.* at 14–16.

[134] *Id.* at 17–19.

burden" federal activities cause in some cases.[135] To receive ESSA funds, each state educational agency submits either individual or consolidated state plans to the U.S. Department of Education for approval.[136]

C.   SSAE Grants are Conditional

Title IV-A authorizes the SSAE grants to support a well-rounded education, healthy and safe schools, and the effective use of technology.[137] The funds are allocated to states, which must distribute 95% of the funding to local educational agencies.[138] The states can reserve the remaining 5% for administrative costs and programs to promote the three purposes of the provision.[139] Local educational agencies can also reserve 2% of their funds for administrative costs.[140] Each district must receive at least $10,000.[141] Title IV-A is complex with a number of nuances, including administrative rules that differ based on how much money a district receives from the grant, the types of programs the funds can be spent on, and opportunities to transfer the funds into or out of programs in other Titles.

If a local educational agency receives a grant of $30,000 or more, it must conform to additional rules. First, the agency must complete a three-part comprehensive needs assessment, regarding its needs to promote a well-rounded education, a healthy and safe learning environment, and a personalized learning experience that is effectively integrated with educational technology.[142] This needs-assessment must be conducted every three years.[143] Second, a local educational agency receiving more than $30,000 of SSAE grants must use at least 20% of the funds to support a well-rounded education, at least 20% of funds to support safe and healthy schools, and "a portion of funds" to support the effective use of technology.[144] Local educational agencies receiving less than $30,000 in SSAE grants need not comply with these rules.[145]

Next, the ESSA enumerates examples of programs districts could put the money toward in promoting a well-rounded education, healthy and safe

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[135] *Id.* at 19–20.
[136] *Id.* at 1.
[137] 20 U.S.C. § 7111.
[138] *Id.* at § 7114(a)(1).
[139] *Id.* at §§ 7114(a)(2), (a)(3), (b).
[140] *Id.* at § 7115(c).
[141] *Id.* at § 7115(a)(2).
[142] *Id.* at § 7116(d)(1).
[143] *Id.* at § 7116(d)(3).
[144] *Id.* at §§ 7116(e)(2)(C), (D), (E).
[145] *Id.* at § 7116(d)(2).

schools, and the effective use of technology.[146] For the third category, the effective use of technology, the funds may be spent on educating teachers and other school leaders on the effective use of personalized learning, blended strategies, and other technologies[147] and on professional development to help teachers improve achievement in STEM courses.[148] Funds may be used to build technological infrastructure, including "procuring content and ensuring content quality" and "purchasing devices, equipment, and software applications in order to address readiness shortfalls."[149] However, no more than 15% may be used to buy technology infrastructure.[150] Schools may spend the grants on strategies to deliver specialized or rigorous academic courses.[151] They may also use the funds to implement "blended learning projects," including planning, development, purchasing resources, initial professional development, one-time technology purchases, and ongoing professional development.[152] Finally, the funds may be used to "provid[e] students in rural, remote, and underserved areas with the resources to take advantage of high-quality digital learning experiences, digital resources, and access to online courses taught by effective educators."[153]

　　　　Both state and local educational agencies may transfer funds into Title IV-A from other programs or from Title IV-A to other programs within the ESSA.[154] Schools that receive funding through the programs for small, rural, and low-income schools may use those funds to support technology instruction as well.[155]

　　　　Title IV-A operates as an equity provision by allocating funding based on poverty levels.[156] Therefore, its greatest impact is on schools and districts that serve predominantly students of color, because students of

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[146] *Id.* at § 7114(b).

[147] *Id.* at § 7119(a)(1).

[148] *Id.* at § 7119(a)(5).

[149] *Id.* at § 7119(a)(2).

[150] *Id.* at § 7119(b).

[151] *Id.* at § 7119(a)(3).

[152] *Id.* § 7119(a)(4).

[153] *Id.* § 7119(a)(6).

[154] OFF. OF SAFE & HEALTHY STUDENTS, U.S. DEP'T OF EDUC., STUDENT SUPPORT AND ACADEMIC ENRICHMENT (SSAE) PROGRAM: TITLE IV, PART A OF THE ELEMENTARY AND SECONDARY EDUCATION ACT (ESEA) AS AMENDED BY THE EVERY STUDENT SUCCEEDS ACT (ESSA): QUESTIONS & ANSWERS 10–11, https://safesupportivelearning. ed.gov/sites/default/files/SSAE_Webinars1-3_QAs_5.26.17_final.pdf [https://perma.cc/K9L8-G8FU].

[155] U.S. DEP'T OF EDUC., NON-REGULATORY GUIDANCE: STUDENT SUPPORT AND ACADEMIC ENRICHMENT GRANTS 32 (2016) [hereinafter, NON-REGULATORY GUIDANCE], https://www2.ed.gov/policy/elsec/leg/essa/ essassaegrantguid10212016.pdf [https://perma.cc/SM5K-RSWV].

[156] *Improving Basic Programs*, *supra* note 23.

color are disproportionately affected by school poverty. [157] Furthermore, schools and districts with minimal or no state funding for edtech are most reliant on the federal funding. In short, Title IV-A has its greatest effect on students of color in states that do not substantially supplement local funding, and in states without specific funding toward edtech.

IV.   EQUITY IMPACT OF SSAE GRANTS

SSAE grants are intended to improve equity in funding for activities in the three categories: well-rounded education; safe and healthy schools; and effective use of technology.[158] The important question in 2021, with a new administration and funding for Title IV-A up for reauthorization after this school year, is whether SSAE grants have actually improved equity for the students it set out to support. In particular, this Part will analyze whether the SSAE grants are effective in the third category—the "effective use of technology" space—and whether they actually help to minimize the digital divide in education.

This question is difficult to answer with the dearth of data available. Therefore, this Part will first explain the data we do have and why it is insufficient. Then, this Part will analyze the structure of the SSAE grants in concert with the available data, concluding that the structure of the grant trivializes edtech by incentivizing districts to spend on anything *but* edtech and by incentivizing districts to spend any edtech funds on teacher development. The discussion of each incentive considers the likely effect on schools predominantly serving students of color; particularly, the incentives make the grants less flexible in practice for these schools than for high-income, predominantly-white schools.

A.   Data on ESSA is Limited

The ESSA was passed in late 2015, a bipartisan "Christmas miracle" under the Obama Administration.[159] However, the first implementation began in the 2017–2018 school year after President Trump took office. Much about the Trump administration was less than transparent, [160] including in the education sphere. This lack of transparency made it difficult to assess the

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[157] *See The Condition of Education 2020*, *supra* note 16, at 5 fig. 3, 50 fig. 1.
[158] 20 U.S.C. § 7114(b).
[159] *Remarks by the President at Every Student Succeeds Act Signing Ceremony*, WHITE HOUSE: OFF. OF PRESS SEC'Y (Dec. 10, 2015), https://obamawhitehouse.archives.gov/the-press-office/2015/12/10/remarks-president-every-student-succeeds-act-signing-ceremony [https://perma.cc/G8ST-TDSV].
[160] SUNLIGHT FOUND., https://sunlightfoundation.com/tracking-trumps-attacks-on-transparency/ (last visited Apr. 23, 2021) [https://perma.cc/E3R9-DNUT].

impact of the ESSA and SSAE grants. In fact, President Trump attempted to eradicate the SSAE grant program altogether.[161] The scarcity of data is therefore unsurprising.

However, we do have access to some basic data. First, we know that historically, Black students have less access to technology, or access only to substandard technology, and are subject to poor integration and less effective use of technology in the classroom.[162] This is a common trend—Black students historically receive worse and fewer education resources—but the impact is even greater today due to the importance of technology.[163]

Second, at least two research institutions have conducted studies to determine how states and districts are spending the SSAE funds.[164] These studies asked state and district leaders questions about their use of the SSAE funds and challenges they faced, but reported data only in the aggregate.[165] The data are not broken down by school or district demographics.

Third, many states provide easily accessible public data on which districts received SSAE funds and how much they received.[166] However, it is difficult to determine how individual districts spent the funding. Individual districts may provide this information in response to a state Freedom of Information Act request. However, this is an inefficient way of determining whether predominantly-Black or predominantly-white districts are able to utilize SSAE funding toward edtech initiatives.[167]

If nothing else, it is vital that the Biden administration prioritizes comprehensive, federally-conducted, equity-focused data. The remainder of this Part will consider the data we do have to analyze the likely impact of SSAE grants on the digital divide, with the caveat that it is difficult to concretely determine the value of an equity program without relevant demographic data.

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[161] *How Much Has the Block Grant Received to Date?*, TITLE IV-A COAL., https://www.titleiva.org/how-much-has-the-block-grant-received-to-date (last visited Apr. 7, 2021) [https://perma.cc/4GEL-95DJ]. The program ultimately was not cut. Jennifer Bergland, *Technology Funding Increased in ESSA Budget*, TECHNOTES (Mar. 27, 2018), https://blog.tcea.org/technology-funding-essa-budget/ [https://perma.cc/HG29-KQKG].

[162] *See supra* Part I.

[163] *See supra* Part I.

[164] *See infra* Parts IV.B, IV.C.

[165] *See infra* Parts IV.B, IV.C.

[166] *See State Education Agency Profile*, TITLE IV, PART A TECHNICAL ASSISTANCE CTR., https://t4pacenter.ed.gov/ StateEduAgencyProfile.aspx (last visited Dec. 14, 2020) (linking to available state Title IV, Part A websites) [https://perma.cc/R28J-BNX3].

[167] The author has attempted to gather some of these data and waited weeks for a response. Further, the data that was ultimately provided was unhelpfully broad.

B.   SSAE Apportionment Requirements Disincentivize EdTech Spending

Districts consistently underfund edtech compared to the other two block grant categories. In one study, 65% of school district respondents indicated that student health and safety was "extremely important," compared to only 31% of respondents indicating that education technology was "extremely important."[168] A well-rounded education fell in the middle, with 52% of respondents indicating that it was "extremely important."[169]

Perhaps an even more importantly, only 38% of respondents prioritized education technology as an "extremely important" investment for the future.[170] By contrast, 70% of respondents prioritized student health and safety as an "extremely important" investment for the future.[171] Twenty-five percent of respondents indicated that they did not use SSAE funds to support the effective use of technology at all.[172] In contrast, only 16% of respondents did not spend the funds on programs to support safe and healthy students, and only 10.6% of respondents did not use the funds on a well-rounded education.[173]

Another study found similar results. Of the districts that retained SSAE funds in 2018 (i.e., did not transfer them), 73% used them for well-rounded educational opportunities; 70% used them to support safe and healthy students; and only 53% used them to support the effective use of technology.[174] On average, districts divvied up the funds as follows: 44% on well-rounded educational opportunities, 41% on safe and healthy students, and 14% on the effective use of technology.[175]

As important as edtech is in our society, in every single measure, from two separate surveys, support for effective use of technology came in last

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[168] THE SCH. SUPERINTENDENTS ASS'N, SUMMARY OF THE 2019 NATIONAL ESSA TITLE IV-A SURVEY 1 (Jul. 2, 2019), https://aasa.org/uploadedFiles/Policy_and_Advocacy/Resources/ESSATitleIVSummaryofFindings-070219.pdf [https://perma.cc/QSB4-C3NA].

[169] Id.

[170] Id.

[171] Id.

[172] Id. at 3. Yet, local educational agencies receiving more than $30,000 must allocate "a portion" of funds to the effective use of technology, so presumably those that provided no funding for the third category were those receiving less than $30,000.

[173] Id. at 2–3.

[174] ANDREA BOYLE & SIDNEY WILKINSON-FLICKER, AM. INSTS. FOR RSCH., STUDENT SUPPORT AND ACADEMIC ENRICHMENT GRANTS: A FIRST LOOK AT ACTIVITIES SUPPORTED UNDER TITLE IV, PART A, prepared for U.S. DEP'T OF EDUC., OFF. OF PLAN., EVALUATION AND POL'Y DEV. 4 (2020), https://www2.ed.gov/rschstat/eval/esea/title-iv-first-look-2020.pdf [https://perma.cc/PH3Z-4YLC].

[175] Id.

place. Districts are given a certain amount of funding for well-rounded education, safe and healthy schools, and edtech, and they are simply not spending it on edtech, or if they are, it is the last priority and receives the least amount of money. Although student health and safety and well-rounded educations are also important priorities, their funding should not occur at the expense of edtech.

Why is edtech the last priority for so many districts? One simple answer may be that some of the districts that do not spend SSAE funds on edtech have access to state or local funds for this purpose. However, many states also provide funding for programs similar to the safe and healthy schools and well-rounded education categories,[176] yet those federal funding categories are not adversely affected. A second, related explanation is that edtech does not cost as much as the other two categories. If this were true, though, we would not continue to see such stark disparities in access to and use of classroom technology resources.[177]

Another possibility is that schools are not underfunding edtech but are simply responding to recent events by putting more of the grant toward the safe-and-healthy-schools category. The two surveys cited are from 2019 and 2020, not long after the Parkland, Florida school massacre. Indeed, this tragic event was a significant catalyst for increased funding for SSAE grants in 2018. [178] Even if the safe-and-healthy-schools category was prioritized, however, this does not explain the discrepancy between the other two categories—well-rounded education and effective use of technology.

A fourth rationale for the discrepancy is that districts were funding edtech but categorized the use of funds in one of the other two buckets because there was some overlap.[179] One can imagine a substantial amount of overlap, particularly between well-rounded educational opportunities and the effective use of technology. Consider, for example, a teacher who uses personalized

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[176] *See, e.g.*, *Healthy Schools Grant*, N.C, PTA,
https://ncpta.org/index.php/programs/healthy-schools-grant-program-
2020/#:~:text=PTA%20units%20or%20councils%20in,(s)%20across%20the%20state (last visited Dec. 12, 2020) (describing North Carolina's healthy schools grant program) [https://perma.cc/XH66-QQNK.
[177] *See supra* Part I.
[178] NOELLE ELLERSON NG & DAVID DESCHRYBER, BRINGING ESSA TITLE IVA TO LIFE: HOW SCHOOL DISTRICTS ARE INVESTING STUDENT SUPPORT & ACADEMIC ENRICHMENT FUNDING, 5 (Jun. 2018),
https://aasa.org/uploadedFiles/Policy_and_Advocacy/files/AASA%20NAFEPA%20WBA%20ESSA%20Title%20IV%20Survey%20FINAL%20061818.pdf [https://perma.cc/M7CJ-JHRL].
[179] *See* BOYLE & WILKINSON-FLICKER, *supra* note 174, at 6 n.8 ("Other reported challenges related to ESEA's effective use of technology requirements included confusion about how to categorize technology-related expenditures (e.g., whether they should count as effective use of technology spending or spending in the other two program areas[.])").

learning tools to increase access to and engagement in foreign language learning.[180] Though it is possible that this confusion accounts for some underrepresentation of edtech funding, the disparity is so large that there must be another explanation.

The underlying issue likely is that the structure of the block grant and its selective apportionment requirements disincentivize the use of SSAE grants for edtech. In particular, the apportionment requirements largely prevent schools with high concentrations of students of color from spending on edtech and result in a much less flexible grant than their white counterparts have. The apportionment requirements require some districts to spend at least 20% of the grant on safe and healthy schools, at least 20% on well-rounded education opportunities, and "a portion" of funds toward the effective use of technology.[181] Even linguistically, requiring devotion of "a portion" of funds to edtech, compared to a concrete 20% for the other categories, insinuates lesser importance. Indeed, edtech takes a backseat even in Congress: a Senate Committee Report's section-by-section[182] and its impact statement for Title IV-A did not even mention technology.[183] We cannot expect localities to fund the effective use of technology if the authorizing body treats it as a lesser priority.

The apportionment requirements were cited as the most common challenge states and districts had in implementing the grant.[184] They only apply, however, if the district receives upwards of $30,000.[185] Because SSAE grants are based on poverty levels, the districts that receive $30,000 or more are typically those with the greatest levels of poverty.[186] Since Black students are more than three times more likely than white students to live in poverty,[187] schools with high concentrations of Black students are much more likely to be subject to the apportionment requirements than schools with high concentrations of white students. And districts subjected to the apportionment requirements have less agency over how to spend the funding, as they must relinquish at least 40% of their SSAE funding to non-edtech uses.

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[180] *See* NON-REGULATORY GUIDANCE, *supra* note 155, at 6 (listing "[i]mproving access to foreign language instruction" as an allowable activity under well-rounded educational opportunities).

[181] 20 U.S.C. §§ 7116(e)(1)(C), (D).

[182] A section-by-section is a legislative document that provides rationale and context for each provision of the related statute.

[183] S. REP. NO. 114–231, at 41–42, 79–80 (2016).

[184] BOYLE & WILKINSON-FLICKER, *supra* note 174, at 6.

[185] 20 U.S.C. § 7116(f).

[186] NG & DESCHRYVER, *supra* note 178, at 3.

[187] *The Condition of Education 2020*, *supra* note 16, at 5 fig. 3.

Meanwhile, many wealthy, white districts—which already are more likely to have safer schools,[188] healthier students,[189] lower dropout rates,[190] accelerated learning programs,[191] and more integrative use of edtech[192]—received at least $10,000 worth of SSAE grants to promote these very initiatives. [193] Since these wealthier districts stayed under the $30,000 threshold, they had free reign to utilize the grants at their discretion. For these districts, the funds are truly supplemental with few strings attached.

C.   SSAE Apportionment Requirements and Infrastructure Caps Incentivize Teacher Development

The districts that did spend their funding on edtech allocated the majority of the funds toward teacher development.[194] This is likely a result of the interaction between the apportionment requirements and the infrastructure

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[188] Johanna R. Lacoe, *Unequally Safe: The Race Gap in School Safety*, 13 YOUTH VIOLENCE & JUV. JUST. 143, 151 (2014), http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.817.2963&rep=rep1&type=pdf (finding that white and Asian students are more likely than Black students to report feeling safer at school).

[189] *See* Jordyn Imhoff, *Health Inequality Actually Is a "Black and White Issue," Research Says*, MICH. HEALTH: LIFESTYLE (Jun. 3, 2020), https://healthblog.uofmhealth.org/lifestyle/health-inequality-actually-a-black-and-white-issue-research-says (discussing ten studies showing national racial disparities in health trends) [https://perma.cc/MB8D-7YWH].

[190] *See Status Dropout Rates*, NAT'L CTR. EDUC. STATS.: THE CONDITION OF EDUC., https://nces.ed.gov/programs/coe/indicator_coj.asp (last updated May 2020) (finding higher dropout rates for Black and Hispanic students than for white students in a nationwide sample) [https://perma.cc/2P5D-N5JX].

[191] *See* Sophie Quinton, *The Race Gap in High School Honors Classes*, ATLANTIC (Dec. 11, 2014), https://www.theatlantic.com/politics/archive/2014/12/the-race-gap-in-high-school-honors-classes/431751/ (describing "Black, Hispanic, and Native American students [as] less likely to attend high schools that offer advanced courses [.]") [https://perma.cc/4H89-GNCB].

[192] *See supra* Part I.

[193] *See, e.g.*, Dave Zucker, *This Westchester School District Is the Nation's Wealthiest*, WESTCHESTER MAG. (Aug. 29, 2018), https://westchestermagazine.com/life-style/this-westchester-school-district-is-the-nations-wealthiest/#:~:text=Of%20the%20ten%20richest%20school,only%20averaged%20%24218%2C152%20per%20household (describing Scarsdale Union Free School District as the wealthiest school district in the country) [https://perma.cc/KAB9-48X6]; Michael B. Sauter, *The Richest School Districts in America*, TODAY (Jun. 8, 2012), https://www.today.com/money/richest-school-districts-america-819618 (same) [https://perma.cc/4QEM-QNNB]; *Allocations 2018–19: Title IV, Part A*, N.Y. ST. DEP'T OF EDUC., http://www.nysed.gov/essa/allocations-2018-19-title-iv-part (last visited Dec. 13, 2020) (listing Union Free School District of Scarsdale as receiving a $10,000 grant under the SSAE grant program in the 2018-2019 school year) [https://perma.cc/B4RH-SYWE].

[194] BOYLE & WILKINSON-FLICKER, *supra* note 174, at 14 exh. 10.

cap. The infrastructure cap requires all districts (above and below $30,000) to limit infrastructure purchases to only 15% of their SSAE grants.[195] The infrastructure cap presents a challenge as many districts cannot provide a device to every student, or even shared devices for small numbers of students. Many districts are unable to send students home with their own device.[196] As discussed in Part I, this creates both an in-school access gap and a homework gap, disadvantaging students without their own device.[197] Unsurprisingly, the infrastructure cap was the second most common complaint among states in terms of effectively implementing the grants.[198] The combined effect of the apportionment requirements and infrastructure cap pushed districts to spend the "portion" of funds going to edtech on teacher development.

Putting SSAE edtech funds toward infrastructure with the imposed limitations may not be worth the districts' effort. Instead, they seem to choose to put the funds toward teacher development programs, which can be more affordable.[199] Furthermore, this choice seems to have been Congress's goal. The language "*effective use* of technology" in the statute contemplates some level of professional knowledge regarding how to best integrate technology in the classroom.[200] The legislative history supports this—many of the technology-focused congressional hearings regarding the reauthorization of the ESEA emphasize the importance of teacher development in this space.[201]

The push toward teacher development is warranted in many regards. In the past, districts have purchased new technology without supplying teachers with sufficient understanding of how to best utilize it in the classroom, and brand-new devices end up sitting in closets.[202] Indeed,

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[195] 20 U.S.C. § 7119(b).

[196] *CoSN's 2018–2019 Annual Infrastructure Report*, *supra* note 50, at 14.

[197] *See supra* Part I.

[198] BOYLE & WILKINSON-FLICKER, *supra* note 174, at 18 exh. 15.

[199] EdTechTeacher, an edtech teacher training organization, charges $600 for an hour-long customizable workshop for school faculty. Email from Gail Ross-McBride, Director, EdTechTeacher, to author (Nov. 9, 2020) (on file with author). *See Remote Teaching and Learning*, EDTECHTEACHER, https://edtechteacher.org/remote-teaching-and-learning/ (last visited Dec. 13, 2020) [https://perma.cc/TK84-JR99]. Even the cheapest Chromebooks cost at least $100 per device, before even accounting for insurance, software, or other expenses. STACKCOMMERCE, *You Won't Believe How Cheap These Chromebooks Are*, MASHABLE (Oct. 6, 2019), https://mashable.com/shopping/oct-6-chromebooks-on-sale/.

[200] 20 U.S.C. § 7111.

[201] *See, e.g.*, S. REP. NO. 112–221, at 38–39 (2012); *The Future of Learning: How Technology is Transforming Public Schools, Hearing Before the Comm. on Educ. and Labor*, 111th Cong. 50 (2009).

[202] *See, e.g.*, Ipek Bakir, *Throwing Money at Education Technology Isn't the Answer [Opinion]*, NOODLE (Sept. 23, 2015), https://www.noodle.com/articles/why-are-schools-wasting-so-much-money-on-ed-tech-2015-09-23 ("In Hoboken, New Jersey, hundreds of laptops are sitting idle in a storage closet after the project that aimed to give every student at

"roughly half [of teachers] say that lack of training is one of the biggest barriers to incorporating technology into their teaching."[203] For many schools, the push toward teacher development is beneficial in the long-term.

However, there are still plenty of students—particularly students in districts that teach predominantly students of color and low-income—who do not have sufficient access to technology at school and at home.[204] Without access to devices and Internet, the teacher development may ultimately be meaningless. Though well-intentioned, the 15% infrastructure cap limits these districts' ability to improve their students' access to technology.

V.   BRIDGING THE EDUCATION DIGITAL DIVIDE THROUGH THE ESSA

Technology is here to stay, in and out of the classroom, and will only grow in importance. Without the necessary yet currently absent data discussed in Part IV.A, we cannot be certain whether the structure of SSAE grants disproportionately affects schools predominantly serving students of color. However, based on the available data and what we know about education inequality more generally, it is likely that students of color are shortchanged in the edtech space. If we truly want to promote equity in the digital sphere, we must recognize and squarely address the importance of technology and the existing digital divide.

The first step is to collect useful, detailed data regarding district use of SSAE funds and access to and use of edtech, broken down by school demographics, as discussed in Part IV.A. If the data comes back supporting the theory outlined in Parts IV.B and IV.C, Congress must consider altering the structure of the SSAE grants to ensure they are promoting education equity in the digital space. Part V.A outlines two broad suggestions for the future of the SSAE grants: first, provide funding specifically for edtech; second, ensure funding is both sufficient and secure.

A.   The ESEA Should Prioritize Equity in EdTech

The major federal law providing federal funding for education, the ESEA, should provide for specific funding allocated explicitly to edtech. This might be done either through the next reauthorization of the ESEA or through the annual appropriations process. Through this latter method, Congress could

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Hoboken Junior Senior High School a personal computer failed.") [https://perma.cc/78MN-HMVS].

[203] 2017 NATIONAL EDUCATION TECHNOLOGY PLAN UPDATE, *supra* note 20, at 28.

[204] NCES BLOG ED., *The Digital Divide: Differences in Home Internet Access*, NCES BLOG (Oct. 31, 2018), https://nces.ed.gov/blogs/nces/post/the-digital-divide-differences-in-home-internet-access [perma.cc/DK9J-7ZYR].

specify a certain amount that schools must spend on edtech. Technology is too important for education, development, and integration in society to continue to be relegated to the backseat in education equity.[205] Yet, as one category of a three-pronged block grant, edtech may never get its fair share of funding—the entire structure "is a zero-sum trade-off. Every federal dollar spent on technology[] can't be spent on arts or school counseling."[206] By giving edtech its own grant, Congress can ensure that school districts have access to the technology resources they need to provide a modern education to *all* students. This approach would also simplify the complexity that exists now.

Providing an edtech-specific grant would remove the flexibility that has benefited white, wealthy school districts. However, wealthier districts are the least likely to need the SSAE grant funding. Congress could provide flexibility *within* the edtech grant, allowing for allocation to a variety of digital learning purposes. This would allow districts that need additional teacher development to place their focus there, but allow other districts to prioritize infrastructure.

An argument against providing a specific edtech grant is that districts wishing to spend funds on edtech could simply do so through the Title I Aid to Disadvantaged Students and the Title II Teacher Quality State Grants programs. This was among the reasons cited for discontinuing the EETT program.[207] This argument misses the point. None of the Title I or Title II sources specifically allocate funds toward edtech, and the statistics cited in Part IV make clear that without a sufficient financial incentive, many districts will simply not fund edtech. By allocating funds specifically for this purpose, Congress can incentivize edtech programs—similar to how Congress incentivized programs for safe and healthy schools. Furthermore, the analysis in Parts I and II demonstrate that there is indeed a need for this type of federal funding and that it is vital to education.

Barring this approach, Congress should at least put edtech on equal footing with the other two categories in the SSAE grants by requiring an equal percentage to be spent on it. In other words, if well-rounded educational opportunities and safe and healthy schools both have 20% apportionment requirements, edtech should also have a 20% apportionment requirement.

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[205] In fact, many scholars even argue for a *right* to technology. *See, e.g.*, Toks Oyedemi, *Internet Access as a Citizen's Right? Citizenship in the Digital Age*, 19 CITIZENSHIP STUD. 450 (2014); Haochen Sun, *Reinvigorating the Human Right to Technology*, 41 MICH. J. OF INT'L L. 279 (2020).

[206] Doug Levin, *U.S. K–12 Educational Technology Policy: What is the Federal Role? (Part II)*, EDTECH STRATEGIES (Jan. 15, 2016), https://web.archive.org/web/20200930184420/https://www.edtechstrategies.com/blog/educational-technology-policy-2/ [https://perma.cc/3E2N-EEYV].

[207] H.R. REP. NO. 112–106, at 15–16 (2011).

Lastly, Congress should remove the requirement that local educational agencies receive at least $10,000 in SSAE grants. There are plenty of districts that do not need the funding at all.[208] Title IV-A should ensure that the funds go to school districts that truly need the supplemental grant.

B.   Congress Must Allocate Sufficient and Secure Funding Towards Edtech

Regardless of the form that edtech funding takes in the future, Congress must fund it sufficiently and for multiple years. If it does not, it risks increasing, or at least stagnating, the digital divide.

In 2017, Congress appropriated $400 million to the SSAE grant program.[209] This was a mere 25% of the program's authorized amount.[210] That year, only 64% of school districts received SSAE grants.[211] By contrast, in 2018, Congress appropriated $1,.1 billion to the program,[212] allowing 82% of districts to receive some funding under the grant program. [213] The authorizations and appropriations remained at similar levels between 2018 and 2020.[214] The table below compares the authorizations for FY17 through FY20 with the actual appropriation amounts.

Table 1: Authorizations and Appropriations for SSAE Grants in FY17–FY20 (in billions[215])

	FY 2017	FY 2018	FY 2019	FY 2020
Authorization	$1.65	$1.6	$1.60	$1.6
Appropriation	$0.4	$1.1	$1.17	$1.21

The subsequent increase in funding levels elucidated two issues with the 2017 funding. First, the 2017 funding levels were simply insufficient. With only $400 million distributed across all fifty states, the District of Columbia, and the U.S. territories, there were "serious implementation issues"[216] as many districts did not receive funding at all or received so little

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[208] *See, e.g.*, Zucker, *supra* note 193 (describing the Union Free School District of Scarsdale, New York as the wealthiest school district in the country); Sauter, *supra* note 193 (same); *Allocations 2018–19*, N.Y. ST. DEP'T OF EDUC., supra note 193 (listing Union Free School District of Scarsdale as receiving a $10,000 grant under the SSAE grant program in the 2018-2019 school year).

[209] SKINNER, *supra* note 110, at 25, 35.

[210] *Id.*

[211] BOYLE & WILKINSON-FLICKER, *supra* note 174, at 3.

[212] SKINNER, *supra* note 110, at 25–35.

[213] BOYLE & WILKINSON-FLICKER, *supra* note 174, at 3.

[214] SKINNER, *supra* note 110, at 25.

[215] *Id.* at 25–35.

[216] *How Much Has the Block Grant Received to Date?*, *supra* note 161.

funding that it was "hardly noticeable."[217] At the 2018 through 2020 levels, many districts are receiving sufficient funds to make meaningful investments in their most needed programs.[218]

Second, such low funding meant that, in order to ensure that at least some districts could make meaningful investments, many states had to allocate funds competitively.[219] Competitive grants can raise concerns about capacity and access because the ability for a district "to develop a competitive application for funds can vary widely, with some places lacking civic resources that contribute to successful grant applications."[220] The process often leaves low-income communities out.[221] The higher funding levels of recent years "obviate the need for a competitive option," which allows the grant to operate as Congress intended, at least on paper—a formula grant with the potential to benefit all districts equitably.[222]

Furthermore, though the funding levels since 2018 have remained at an adequate level compared to the appropriation in 2017, the long-term availability of SSAE grants is insecure. Appropriations for SSAE grants, like appropriations for other discretionary spending,[223] are determined on an annual basis.[224] This means that in any given year, SSAE grants could drop from their current $1.2 billion to $0, much like how the EETT grants dramatically decreased in the early 2000s.[225] In 2018 and 2019, President Trump threatened to eliminate the program altogether.[226] Because school districts are unsure whether they will continue to receive SSAE funding the next year, it is difficult and undesirable to implement meaningful and widespread programs.[227] As one educator put it, "[i]f we knew this funding

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[217] COUNCIL OF URB. BDS. OF EDUC., THE OPPORTUNITY TO INCREASE EQUITY: A GUIDE TO ESSA TITLE IV. PART A, NAT'L SCH. BDS. ASS'N 2 (2019).

[218] *How Much Has the Block Grant Received to Date?*, *supra* note 161.

[219] *Id.*; BOYLE & WILKINSON-FLICKER, *supra* note 174, at 3.

[220] Kate Lowe, Sarah Reckhow & Juliet F. Gainsborough, *Capacity and Equity: Federal Funding Competition Between and Within Metropolitan Regions*, 38 J. OF URB. AFFS. 1 (2015).

[221] *Id.*

[222] *How Much Has the Block Grant Received to Date?*, *supra* note 161.

[223] AM. COUNCIL ON EDUC., *A Brief Guide to the Federal Budget and Appropriations Process*, https://www.acenet.edu/Policy-Advocacy/Pages/Budget-Appropriations/Brief-Guide-to-Budget-Appropriations.aspx (last visited Feb. 24, 2021), [https://perma.cc/S47W-UWZS].

[224] OFF. OF SAFE AND HEALTHY STUDENTS, *supra* note 154, at 10.

[225] Levin, *Historical Notes on the Federal Role*, *supra* note 112.

[226] *How Much Has the Block Grant Received to Date?*, *supra* note 161.

[227] NG & DESCHRYVER, *supra* note 178 ("[Educators'] support for the program is tempered by the concern about Congress' inability—or lack of willingness—to continue to adequately and appropriately fund ESSA Title IV. This influences how they plan and decide how they

was guaranteed for three to five years, then it would allow us to plan, hire staff, and find ways to institutionalize programs."[228] Instead, schools end up with short-sighted, one-time investments, undermining the purpose of the provision.

This is particularly true of schools that rely entirely or predominantly on federal funding to support these types of programs. State funding for edtech can be equally unreliable.[229] With inadequate and insecure state and federal funding, districts with local wealth are more likely to be able to implement and continue these types of programs than low-income districts. Because Black students are more likely to live in low-income districts,[230] and are therefore most likely to rely on this funding, insecure funding levels have an inequitable effect. The lesson here is simply that, in whatever form edtech funding takes in the future, Congress must fund it adequately and for more than a single year at a time to allow educators the ability to implement long-term, meaningful programs.

CONCLUSION

As it stands, Title IV-A promotes equity in theory, but does not do so in practice. It is clear that the digital divide is not going to fix itself, and more must be done to ensure *all* students can benefit from the exponentially superior education available in the digital world and learn the skills necessary to be a contributing member of modern society. The absence of demographic data is a hindrance to determining whether the SSAE grants help shrink the digital divide. Robust data collection is a necessary first step. Hopefully the SSAE grants are indeed mitigating the education digital divide—but, based on the data we do have, this does not seem to be the case. Therefore, moving forward, there must be much greater priority placed on technology and its role in education, by both providing funding specifically for edtech and ensuring that funding is sufficient and secure.

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use the funds, and whether they spend on one-time investments or plan long-term sustained federal support.").

[228] *Id.* This sentiment is particularly salient for edtech programs because technology is always changing and improving. The likelihood that schools will ever "no longer [have] a significant need" for a program "targeted specifically on the effective integration of technology into schools and classrooms," as was argued under the Bush administration, is slim. *See* Levin, *Historical Notes on the Federal Role*, *supra* note 112.

[229] *See, e.g.*, Benjamin Herold, *Poor Students Face Digital Divide in How Teachers Learn to Use Tech*, 83 THE EDUC. DIGEST 16 (2017).

[230] Janie Boschma & Ronald Brownstein, *The Concentration of Poverty in American Schools*, ATLANTIC (Feb. 29, 2016), https://www.theatlantic.com/education/archive/2016/02/concentration-poverty-american-schools/471414/ [https://perma.cc/UG72-45BC].

This is a pivotal moment: the country is moving into the Biden administration; the ESSA's funding authorizations are ripe for review at the end of the 2020–2021 school year; and, because of the global pandemic, the ugliness of the digital divide in education has never been quite so apparent. We must build on this momentum and work toward a solution that truly allows every student to succeed.