THE GREAT EQUALIZER: EDUCATION OR TECHNOLOGY?

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Abstract: This Essay evaluates the structure of technology funding in education and how it has impacted students’ access to quality instruction throughout the COVID-19 pandemic. As access to education throughout the pandemic depended on students’ and schools’ abilities to procure access to connected devices, some students were left with minimal to no instruction. Further, the pandemic sheds light on the existing technology access inequities that trace the lines between socioeconomic classes. First, technology access is defined as a two-fold issue: access to the internet, and access to devices other than smartphones. This Essay presents the current federal funding structure for educational technology, which concerns the former prong of technology access. COVID-19 has prompted federal legislation to acknowledge the latter prong of technology access in funding opportunities for schools. Second, education law precedent demonstrates that the judicial system is hesitant to rule on complex public policies such as education. Supreme Court precedence instead focuses on funding structures that violate the Equal Protection Clause of the Fourteenth Amendment. This Essay discusses the appropriateness of the Equal Protection Clause as a remedy for students seeking equal educational services on the basis of wealth. It argues that a duty should be imposed on state and federal legislatures to fund educational devices. Lastly, this Essay discusses the potential for a basic federal right to technology access in education.

INTRODUCTION

Education transcends state boundaries in its universal importance, yet neither the Constitution nor its Amendments explicitly mention education.¹ Courts typically use the Equal Protection Clause of the Fourteenth Amendment to protect the distribution of education services across the lines of race, gender, and sexual orientation.² The United States is increasingly split between those with and without

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¹ JAMES A. RAPP, EDUCATION LAW § 1.01(2) (2020).
² See San Antonio Indep. Sch. Dist. v. Rodriguez, 411 U.S. 1, 61 (1973) (noting that the Equal Protection Clause protects against discrimination because of individual characteristics such as race, religion, nationality, etc.).
wealth. Schools are correspondingly polarized between those with student-facing technology and those without. The Fourteenth Amendment protects an identifiable group from receiving unequal treatment. Does this extend to receiving lower quality of technology services on the basis of wealth? Technology is inseparable from nearly any aspect of modern life, and there is a clear divide in technology access to students of public schools based on their local communities.

Since 1996, Congress funded programs such as the School and Libraries Program, known as E-Rate, indicating a belief that technology access is becoming a utility. As schools integrate technology into classrooms, continuous innovation makes legacy services, such as dial-up internet connections, obsolete and creates new obstacles for under-connected schools to address. Delaying students’ access to Wi-Fi internet connections prevents the promised effect of programs like E-Rate. This Essay analyzes the dilemma created by the modernization of federal statues such as E-Rate, the effect of the COVID-19 pandemic, and the divide in technology access of schools across socioeconomic classes. This Essay also discusses whether the Equal Protection Clause of the Constitution is an appropriate tool of remedy. Further, with the federal acknowledgement of the importance of technology integration into education, a minimum standard of public education is

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I. TECHNOLOGY ACCESS IN EDUCATION

Access to technology is broken into two components: internet access and device access. \(^{19}\) E-Rate is a program authorized under the Telecommunications Act of 1996 that appropriates funding for public schools to acquire internet infrastructure. \(^{20}\) Section A of this Part focuses on the history and modernization of the E-Rate program. \(^{21}\) Section B speaks to the limitations of federal funding and the impact of the COVID-19 pandemic that has disrupted school systems and forced distance learning. \(^{22}\)

A. History and E-Rate and Technology Use in Schools

The Schools and Libraries (E-Rate) program was established as part of the 1996 Telecommunications Act, overseen by the Federal Communications Commission (FCC). \(^{23}\) The E-Rate program is funded by mandated contributions from all telecommunications companies. \(^{24}\) Under the program, public schools and libraries can apply for funding to use towards internet hardware and installation, reducing costs by twenty to ninety percent. \(^{25}\) As Wi-Fi began replacing dial-up internet, schools found themselves in a position once again of needing funding to secure adequate internet access. \(^{26}\) Thus, a modernization order was passed in

\(^{14}\) See discussion infra Part III.B.2.  
\(^{15}\) See discussion infra Part III.B.2 (discussing the impacts of technology connection on the quality of education).  
\(^{16}\) See discussion infra Part I.  
\(^{17}\) See discussion infra Part II.  
\(^{18}\) See discussion infra Part III.  
\(^{19}\) See UNIVERSAL SERV. ADMIN. CO., SCHOOLS AND LIBRARIES (E-RATE) PROGRAM 3 (2019), https://www.usac.org/wp-content/uploads/e-rate/documents/Handouts/E-rate-Overview.pdf (explaining that the E-Rate program is designed to support schools’ internet connectivity, leaving the schools responsible for obtaining technology).  
\(^{21}\) See discussion infra Part I.A.  
\(^{22}\) See discussion infra Part I.B.  
\(^{24}\) E-Rate and Education (a History), supra note 9.  
\(^{26}\) Summary of the E-Rate Modernization Order, supra note 10.
The success of the E-Rate program is evident, prompting leading non-profits in this space to announce that “the connectivity gap is closed” because 99% of public school districts have access to 100 kilobits per second (kbps) per student through scalable internet infrastructures. Examples of scalable internet infrastructures include fiber-optic or WiFi connections, which grow in bandwidth ability as hardware improves. It is impressive that many schools are connected, but the 100 kbps per student standard for internet speed is the minimum needed for general internet connection in classrooms. The FCC has updated the minimum internet speed needed to 1 megabit per second (Mbps) per student for each classroom of a school to have the ability to leverage internet learning resources, such as digital learning, every day.

B. Limitations of Federal Funding and the Impact of COVID-19

The connectivity gap has been substantially lessened, but federal funding for devices has been limited. In response to the unprecedented COVID-19 pandemic, during which schools were forced to conduct classes remotely, Washington Senator Patty Murray introduced a bill to expand federal funding for educational technology. The proposed bill includes $4 million in E-Rate funding, with an update to the E-Rate program that includes “connected devices” as eligible equipment in addition to internet infrastructure materials. This bill currently sits in the Senate, delegated to the Committee on Health, Education, Labor, and Pensions. Additionally, the Coronavirus Aid, Relief, and Economic Security (CARES) Act was passed which granted $13 billion to elementary and secondary schools to use for emergency needs, including devices for students.

27 Wilkins, supra note 11.
29 See id. (demonstrating the growth in public schools installing scalable internet infrastructures that account for future bandwidth expansion).
30 See id. (stating that over 99% of public schools in the United States are connected with bandwidth speeds of 100 kbps per student, but that speeds of 1 Mbps per student are required for daily use of digital learning in the classroom).
31 Id.
32 See UNIVERSAL SERV. ADMIN. CO., supra note 19, at 3 (demonstrating that the E-Rate program is limited to funding internet connectivity and its required hardware).
33 Coronavirus Child Care and Education Relief Act, S. 4112, 116th Cong. § 251(F) (2020).
34 Id.
35 Id.
II. ROLE OF THE FEDERAL GOVERNMENT AND THE IMPACTS OF COVID-19 IN EDUCATION

Education is left to the states.\textsuperscript{37} Under the Equal Protection Clause of the Constitution, complainants can seek remedies for unequal quality of education.\textsuperscript{38} Remedies under the Equal Protection Clause, however, depend on the identity of the group that is receiving unequal services.\textsuperscript{39} Section A of this Part discusses the federal judiciary and legislative roles in increasing educational technology.\textsuperscript{40} Section B discusses the impact that the COVID-19 pandemic had on education and the role technology played.\textsuperscript{41}

A. The Federal Government’s Role in Education

The Constitution makes no mention of education.\textsuperscript{42} Historically, education was a private matter and was the responsibility of parents or private groups, such as churches.\textsuperscript{43} Modern society believes education is the “great equalizer,” yet the federal government has not granted education as a fundamental right.\textsuperscript{44} Instead, education is still reserved to the states and local governments.\textsuperscript{45} Subsection 1 discusses the current role of the judiciary in the greater education system, and Subsection 2 demonstrates the effects of the executive and legislative branches.\textsuperscript{46}

1. No Fundamental Right to Education

In 1973, in \textit{San Antonio Independent School District v. Rodriguez}, the Supreme Court held that there is no fundamental right to education under the Constitution.\textsuperscript{47} It is up to the states to define their own minimum standards of education.\textsuperscript{48} Although the Equal Protection Clause extends to state law, it does not require absolute equality in providing public services.\textsuperscript{49} Instead, \textit{Rodriguez} draws a clear line that only the absolute deprivation of a benefit to a specific group of

\textsuperscript{37} \textit{RAPP}, supra note 1, § 1.01(2).
\textsuperscript{38} See id. (discussing how the Equal Protection Clause has been used to protect against discrimination in education, most notably in \textit{Brown v. Bd. of Educ.}, 347 U.S. 483 (1954)).
\textsuperscript{39} See id. § 1.01[7] (stating that the Fourteenth Amendment has been used to protect against discrimination on the basis of such things as race or disability).
\textsuperscript{40} See discussion infra Part II.A.
\textsuperscript{41} See discussion infra Part II.B.
\textsuperscript{43} \textit{RAPP}, supra note 1, § 1.01(1).
\textsuperscript{44} See Gary B. v. Whitmer, 957 F.3d 616, 621, 654–55 (6th Cir. 2020), vacated, 958 F.3d 1216 (2020) (concluding that a basic minimum education is necessary).
\textsuperscript{45} See Brown v. Bd. of Educ., 347 U.S. 483, 493 (1954) (stating that education is the “most important function of the state and local governments”).
\textsuperscript{46} See discussion infra Part II.A.2.
\textsuperscript{47} Rodriguez, 411 U.S. at 35.
\textsuperscript{48} See \textit{RAPP}, supra note 1, § 1.01(2) (stating that education is a state function and that the Constitution does not specify any role of the federal government in education).
\textsuperscript{49} See \textit{Rodriguez}, 411 U.S. at 119 n.76 (Marshall, J., dissenting) (stating that it has been a goal of the Supreme Court to pursue equality between “clear disparities” among socioeconomic classes).
people will result in judicial scrutiny. This decision makes it exceptionally hard to argue education violations of the Equal Protection Clause on the basis of financial means.

Rodriguez effectively limits the ability for citizens to call on the federal government to fix a state’s unequal apportionment of education services. It held that “on the basis of wealth . . . there was no showing that any definable category of ‘poor’” existed. Further, the Equal Protection Clause does not require “absolute equality or precisely equal advantages.” A school that receives more from local tax sources will be able to afford more services, including technology, for its students than a school in a less wealthy district. For example, a wealthier school is less reliant on state funds, and is able to apportion these local funds toward non-essential services. The Court in Rodriguez decided that it is satisfactory when services theoretically exist for all students, rather than considering the fairness of quality and availability between districts. Because technology access depends on wealth, students seeking equal access to connected devices may not find a remedy in court until a new precedent is set. As federal courts attempt to recognize a federal standard for education, the Supreme Court continues to lean on its precedent decision in Rodriguez.

2. Federal Recognition of the Importance of Educational Technology

Modern careers depend more and more on employees having basic technology skills, which intensifies the impact of students having, and not having, ample access to technology. The U.S. Bureau of Labor Statistics found in 2012 that approximately fifty percent of jobs required basic technology skills. In 2020,
it was expected that this number was seventy-seven percent. Through the E-Rate program, and its modernization orders, the federal government recognizes this growing dependence. The U.S. Department of Education goes as far as calling internet access a “universal service.” Students with access to technology before high school graduation have a higher chance of obtaining the basic skills needed to enter the workforce. Students with early technology access in their academic careers are positioned for better outcomes. Knowing the basics allows students to use technology adeptly in post-secondary education, rather than playing catch up.

B. The Impacts of Technology in the COVID-19 Pandemic

As schools shut down across the United States in the spring of 2020, distance learning was the only option for most students, isolating those without technology. Distance learning ranged from printed-out worksheet packets to online education, both heavily dependent on the technology and internet availability in families’ homes. Similar to in-person instruction, students are able to receive real-time feedback when virtually connected to teachers. For those relying on hard-copy instruction, feedback is only reactionary and mastery is delayed. Further, twenty-eight states did not require distance learning, which affected forty-eight percent of K–12 students, leaving school districts to vary their education plans based on school and student assets. The E-Rate program’s expansion to include technology acknowledges education’s growing need for

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62 Id.
63 See generally E-Rate Program - Discounted Telecommunications Services, supra note 23 (discussing the primary purpose of the E-Rate program as ensuring universal access to affordable internet services in public schools and libraries); Summary of the E-Rate Modernization Order, supra note 10 (noting that the internet is a universal service and schools require infrastructure updates to facilitate modern bandwidth speeds).
64 Id.
65 Computer Skills a Must in Today’s Workforce, supra note 60.
66 See RAND Co., USING EARLY CHILDHOOD EDUCATION TO BRIDGE THE DIGITAL DIVIDE 4, 21–22 (2014), https://www.rand.org/content/dam/rand/pubs/perspectives/PE100/PE119/RAND_PE119.pdf (demonstrating that students with access to technology, and who use this technology alongside curricula, achieve higher literacy outcomes).
67 See id. (discussing the effect of educational technology on student outcomes).
70 Zachary Herrmann, How to Make the Most of Student Feedback During Distance Learning, EDUTOPIA (Nov. 6, 2020), https://www.edutopia.org/article/how-make-most-student-feedback-during-distance-learning.
71 See id. (discussing the differences in teacher feedback when students have access to digital distance learning compared to hard-copy distance learning).
72 Dorn et al., supra note 68.
technology to endure the pandemic. The E-Rate expansion is a future opportunity to minimize the effects of a pandemic, where schools can better equip students and families with hotspots and computers. During the 2020 spring semester, students without computers could not reap the benefits from expanded internet access that the pandemic inspired.

III. DEFINING A MINIMUM STANDARD OF EDUCATION

Although public education has long been established, access to technology depends on a school district’s financial means, and inequity on the basis of wealth is not protected under the Fourteenth Amendment unless there is an absolute deprivation. Education used to be seen as the “great equalizer.” The increasing role of technology in academic success is challenging this title. Section A of this Part analyzes whether COVID-19 created an absolute deprivation of education for students without access to technology, and proposes that, regardless, it is against equitable principles. Section B analyzes the duties of the state and federal governments to expand the minimum standard of education and to include technology.

A. Did Covid-19 Create Absolute Deprivation?

The pandemic created an educational crisis. States dropped mandates for schools to assess learning and some students were not able to access instruction. Access to education during distance instruction was solely dependent on the students’ technology at home, although some education may have continued via

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73 See Coronavirus Child Care and Education Relief Act, 116 S. 4112 (expanding the E-Rate program to include funding support for student technology in addition to internet hardware and services).
74 See id. (promising funding for educational technology in addition to funding internet connectivity if passed).
75 See id. (stating that funding would be allotted for student connected devices).
76 See San Antonio Indep. Sch. Dist. v. Rodriguez, 411 U.S. 1, 20, 23 (1973) (stating that wealth is not an appropriate basis for defining a protected class of individuals unless there is a clear and absolute lack of access to services available to individuals with less wealth, rather than a lower quality of services provided).
78 See id. (implying that technology is an important factor behind the correlation between the achievement gap and wealth gap).
79 See discussion infra Part III.A.
80 See discussion infra Part III.B.
82 Dorn et al., supra note 68.
worksheets. An imbalance was thus created because some students had access to online education while others did not.

Students without access to technology-aided distance learning may meet the judicial review requirement for “absolute deprivation” established in Rodriguez because the lack of technology is a direct effect of wealth, and wealth cannot be the basis for illegal discrimination when it creates a clear divide. Still, it is not obvious that a student within this group could expect a favorable outcome under Rodriguez. The accessibility of technology is determined on the basis of wealth, not on the basis of a federally protected identity under the Equal Protection Clause. Despite the specific precedent on the issue, the Fourteenth Amendment should apply to the wealth of school districts because the wealth of the school’s immediate community controls the wealth of the school. Community wealth is something schools cannot control and that immediately impacts students’ access to technology in a substantial and quantifiable way. The principles of equality that support the Fourteenth Amendment are not satisfied when students receive poorer quality of education services. COVID-19 illuminated the have and have-nots of technology, demonstrating the harsh impact that under-connection—the lack of adequate access to either internet or technology—has on education. The divide between the connected and the under-connected has been present since the conception of the internet. The effects of being in the latter group have only intensified, especially in students’ educational outcomes. Before the pandemic, one in five students age thirteen to seventeen were not able to complete school work at home due to lack of reliable access to the internet or a computer. Thirty-five percent of students must complete their homework on a cellphone as homework assignments are more likely to be assigned online. Low-income teens are over

83 Coronavirus and Learning: What’s Happening in Each State, supra note 69.
84 See id. (showing that states are aware that not all students have access to technology for remote instruction); Dorn et al., supra note 68 (discussing how the varying levels of education throughout the pandemic precluded some students from receiving instruction due to lack of resources).
85 See Rodriguez, 411 U.S. at 23 (implying that an absolute deprivation of educational services can be brought about by a lack of personal resources).
86 See id. at 123 (White, J., dissenting) (stating that the Fourteenth Amendment traditionally recognizes a protected group when discrimination of that group is on the basis of a characteristic which individuals in the group cannot control).
87 See id. at 25 (arguing that wealth is not an appropriate basis for defining a protected class of individuals).
88 See id. at 123 (White, J., dissenting) (arguing that under the state’s education funding scheme the treatment of families with different levels of wealth did fit within the traditional analysis of protected classes under the Fourteenth Amendment).
89 Auxier & Anderson, supra note 8.
90 See id. at 69 (arguing that “there is no difficulty” in identifying discrimination on the basis of wealth).
91 See Dorn et al., supra note 68 (noting that low-income students are less likely to have access to the tools they need to succeed at remote learning).
92 See id. (showing systematic inequity in student outcomes based on racial and financial data).
93 See Auxier & Anderson, supra note 8 (discussing statistics comparing access to internet and technology across income levels).
94 Id.
95 Id.
two and a half times more likely to be unable to complete homework due to unreliable technology access.  

B. The Duty to Expand the Standard of Education

Technology should be included and mandated in public education. As it stands, there is no federal duty, and the states are left to regulate education. Subsection 1 focuses on expanding the standard of education within our current system. Subsection 2 analyzes how federal action could create a new minimum standard of education.

1. Within the Current System

In our current system, only states have the ability to decide the level of education to which citizens are entitled. Rodriguez allows states to create funding structures that do not correct the discrepancies in wealth between school districts. States should self-appoint a duty to equalize services provided to students between all school districts because there is a positive correlation between the effects on student outcomes and student access to technology in the classroom. If a state chooses to allow districts to use funding for student technology, then it should ensure that all schools are equally able to apply funds to this cause. This can be achieved by designating funds specifically to develop learning technology infrastructure to support one-to-one computer to student ratios in all public schools. Apportioning funding directly is more impactful than discretionary

96 See id. at 4 (showing that only nine percent of students in households earning $75,000 or more are unable to complete their homework due to unreliable access to a connected device compared to twenty-four percent of students in households earning less than $30,000).


98 See Rodriguez, 411 U.S. at 35 (concluding that the Constitution does not afford a federal right to education).

99 See discussion infra Part III.B.1.

100 See discussion infra Part III.B.2.

101 See RAPP, supra note 1, ¶ 1.01(2) (implying that because the Constitution does not list education as a federal power, the Tenth Amendment reserves this power for the states).

102 See Rodriguez, 411 U.S. at 23–24 (reasoning that states need not provide structures that ensure equal distribution of services so long as the actual distribution of services is not motivated by discriminatory motives).

103 See Benjamin Herold, One-to-One Laptop Initiatives Boost Student Scores, Researchers Find, EDUC. Wk. (May 11, 2016), https://blogs.edweek.org/edweek/DigitalEducation/2016/05/one-to-one_laptop_test_scores.html (asserting that when schools provide students with one-to-one access to connected devices, students have higher test scores).


funding because it reduces the possibility that schools will prioritize other needs over student devices.  

2. Federal Minimum Standard of Education

As the Supreme Court is not likely to overturn Rodriguez, it is up to Congress to mandate technology access in education. Just as there is a minimum standard for minimum wage regulated by the Commerce Clause, which admittedly is less applicable to education, there should be a federal minimum standard of technology access within education regulated through E-Rate, or comparable education funding legislation. At a minimum, schools should have adequate internet speeds complying with the suggestion of the FCC and have computers for one-to-one student use in class across the entire school. It is a matter of public policy for students to develop computer skills. Increasing the basic skill set of students through integrating technology into education creates a more skilled workforce, and this would increase the equity of starting points for students in higher education.

CONCLUSION

Equity of education services is not protected by the courts along the lines of socioeconomic status. So long as students receive some services, states are not required to face the consequences of varying technology access on the basis of district wealth. Technology procurement is left to the ability of the school. As basic technology skills become a requirement for job positions, students should have the right to an education that includes a computer. The COVID-19 pandemic shone a light on the differences between those with access to technology and those without. Although it is not possible to mandate that all citizens have access to internet, it is

106 See generally id. (regulating federal education funding in a way that distributes general funds to states which can then be apportioned for technology as opposed to providing funds specifically designated for educational technology).

107 See Joshua Dunn, Federal Appeals Judges Discover Constitutional Right to "Basic Minimum Education", EDUC. NEXT (Apr. 23, 2020), https://www.educationnext.org/federal-appeals-judges-discover-constitutional-right-basic-minimum-education/ (discussing the difficulty for the court system to address education as a federal right and implying that current case law will not be overturned by the Supreme Court).

108 See Minimum Wage, U.S. DEP’T LAB., https://www.dol.gov/general/topic/wages/minimumwage (last visited Nov. 20, 2020) (requiring employers to meet a federal minimum wage, although states retain the right to mandate a higher minimum wage).

109 See K-12 Bandwidth Goals, EDUCATIONSUPERHIGHWAY, https://www.educationsuperhighway.org/upgrade/types-of-fiber-services/k-12-bandwidth-goals/ (last visited Nov. 20, 2020) (discussing the FCC’s recommendation that all students have access to a device with internet speed over 1 Mbps in order to have a media-rich curriculum).

110 See Computer Skills a Must in Today's Workforce, supra note 60 (discussing the upward trend in computer skills required to enter the workforce and implying that higher access to technology in education better prepares students to enter the workforce).

111 See id. (discussing the necessity for those entering the workforce to have basic technology skills).
possible for federal action to create a minimum standard for education to include technology. It is not the duty of the government to mandate everyone have absolutely equal access to technology, but it is the duty of the government to ensure that reasonable access exists in every public school for every student. As it stands currently, education is no longer the great equalizer. It has been displaced by the opportunity to access technology early in academics.