TECHNOLOGY AS A CIVIL RIGHT AND A MOVE TOWARD DISABILITY JUSTICE: ENSURING DIGITAL ACCESS FOR DISABLED STUDENTS IN THE PANDEMIC

DeVan L. Hankerson* & Lydia X. Z. Brown†

ABSTRACT

Disabled students have long faced the impact of systemic and structural ableism in education, from early learning through postsecondary education. Yet despite nearly fifty years of civil rights advocacy and legislative victories, disabled students still face routine denials of access in the classroom, inaccessible pedagogies, and exclusionary technologies. The COVID-19 pandemic has heightened and sharpened disparities in learning and digital access for disabled students of all ages, with the burden falling most heavily on disabled students further marginalized by racism, classism, and other forms of oppression. Disabled students are less likely to have reliable access to web-based technologies, while websites, software, and course tools are often inaccessible to disabled users despite their near ubiquity in the pandemic. This Article explores the opportunities created by and limitations inherent to disability rights laws as a means of bridging the increasing digital divide in education and offers starting points for charting a path forward informed by radical anti-ableism and disability justice movement work.

* M.P.P., Middlebury Institute of International Studies. The author is a telecommunications and technology policy researcher at the Center for Democracy & Technology.

† J.D., Northeastern University School of Law. The author is a disability justice advocate, policy counsel at the Center for Democracy & Technology, and adjunct lecturer and core faculty at Georgetown University's Disability Studies Program.

TABLE OF CONTENTS

INTRODUCTION

In March 2020, students across the United States faced a jarring transition to virtual education when K-12 classrooms and university campuses alike moved online in response to the COVID-19 pandemic. This abrupt, nationwide transition exemplified and exacerbated existing systemic and structural disparities and injustices in education, especially for those students who lacked reliable internet access, a safe physical environment, or usable technologies.[1] Virtual learning and

---

1. Paloma Esquivel, Howard Blume, Ben Poston, & Julia Barajas, *A Generation Left Behind? Online Learning Cheats Poor Students, Times Survey Finds*, L.A. TIMES (Aug. 13, 2020, 5:00 PM), https://www.latimes.com/california/story/2020-08-13/online-learning-fails-low-income-students-covid-19-left-behind-project; MONICA TSETHLIKAI, MICHELLE SARCHE, JESSICA V. BARNES, & HIRAM FITZGERALD, SOC'Y FOR RSCH. IN CHILD DEV., ADDRESSING INEQUITIES IN

telework have increased access for many disabled people who are unable to reliably access in-person education and employment, both for disability-related reasons like chronic pain, and environmental or structural reasons like a lack of reliable and accessible transportation.[2] Yet at the same time, disabled students who had previously struggled to receive necessary supports, services, and accommodations at all levels of education have had to navigate a new digital environment that has largely been inaccessible and unusable for many students with different types of access needs.[3]

Many disabled students[4] are significantly less likely to be able to access online content, with 98% of the top-ranked one million websites failing to meet international accessibility standards,

EDUCATION: CONSIDERATIONS FOR AMERICAN INDIAN AND ALASKA NATIVE CHILDREN AND YOUTH IN THE ERA OF COVID-19 (Sept. 9, 2020), https://www.srcd.org/research/addressing-inequities-education-considerations-american-indian-and-alaska-native-children; Andrew Ujifusa, *1 in 3 American Indian, Black, and Latino Children Fall into Digital Divide, Study Says*, EDUC. WK. (July 22, 2020), https://www.edweek.org/education/1-in-3-american-indian-black-and-latino-children-fall-into-digital-divide-study-says/2020/07; Maureen Downey, *Coronavirus Closings: When College Students Must Go Back to Abusive Homes*, ATLANTA J.-CONST. (Mar. 25, 2020), https://www.ajc.com/blog/get-schooled/coronavirus-closings-when-college-students-must-back-abusive-homes/1oSNzpzWPP6Qoe12BcBXAN.

2. *See* Danielle Campoamor, *Disabled People React to Coronavirus Work from Home Accommodations*, TEEN VOGUE (Mar. 24, 2020), https://www.teenvogue.com/story/disabled-people-react-to-coronavirus-work-from-home-accommodations; Chelsea Cirruzzo, *Disabled People Have Worked Remotely for Years, and They've Got Advice for You and Your Bosses*, WASH. POST (Mar. 17, 2020, 10:00 AM), https://www.washingtonpost.com/lifestyle/wellness/disabled-people-have-worked-remotely-for-years-and-theyve-got-advice-for-you-and-your-bosses-/2020/03/17/f99dfd54-67d1-11ea-b313-df458622c2cc_story.html; *see also* Adriana Saso-Graves, Opinion, *Undercover Ableism Still Exists in the Classroom*, MAC WKLY. (Mar. 5, 2020), https://themacweekly.com/77723/opinion/undercover-ableism-still-exists-in-the-classroom.

3. Greta Anderson, *Accessibility Suffers During Pandemic*, INSIDE HIGHER ED (Apr. 6, 2020), https://www.insidehighered.com/news/2020/04/06/remote-learning-shift-leaves-students-disabilities-behind; Mythili Sampathkumar & Maya Shwayder, *The Mass Migration to Online Learning Is Leaving Disabled Students Behind*, DIGIT. TRENDS (Mar. 27, 2020), https://www.digitaltrends.com/news/disabled-students-online-learning-coronavirus/; *see also* Chelsea Jones, Opinion, *Accessibility Must Be More than an Add-On to Online Pedagogy*, UNIV. AFFS. (Aug. 21, 2018), https://www.universityaffairs.ca/opinion/in-my-opinion/accessibility-must-be-more-than-an-add-on-to-online-pedagogy.

4. This Article discusses students in both the K–12 and the college/university context. The legal frameworks outlined in Part I, *infra*, apply to people with disabilities broadly and to students with disabilities.

according to one recent study.[5] Furthermore, students from low-income backgrounds and students of color are less likely to have broadband access at all *and* are more likely to have one or more disabilities, making low-income disabled students of color particularly vulnerable to the negative impact of the digital divide.[6] During the pandemic, these challenges have jeopardized basic access to education for these students.

The legal framework for disability rights in education has largely relied on the civil rights and human rights frameworks for addressing disabled students' right to access, inclusion, and equality of opportunity both offline and online.[7] That legal landscape does not, however, adequately address the myriad ways in which disability is often deeply entangled with race, class, and gender; thus, ableism is entangled with oppression based on race, class, and gender.[8] Nor can legal frameworks address the ways in which legal and policy reform fail to meaningfully change the undercurrent of ableism (or disability oppression) endemic in society. Rights-based frameworks necessarily depend at least in part on the expectation of

---

5. WEBAIM, THE WEBAIM MILLION, https://webaim.org/projects/million (Feb. 2021) (finding that 97.4% of sites examined failed to fully comply with the Web Content Accessibility Guidelines published by the World Wide Web Consortium, a marginal improvement from 2020's 98.1%).

6. Rebecca Vallas & Shawn Fremstad, *Disability Is a Cause and Consequence of Poverty*, TALK POVERTY (Sept. 19, 2014), https://talkpoverty.org/2014/09/19/disability-cause-consequence-poverty/; NANETTE GOODMAN, MICHAEL MORRIS & KELVIN BOSTON, NAT'L DISABILITY INST., FINANCIAL INEQUALITY: DISABILITY, RACE AND POVERTY IN AMERICA 18–20 (2019), https://www .nationaldisabilityinstitute.org/wp-content/uploads/2019/02/disability-race-poverty-in-america.pdf; *see also infra* Part II (examining the relationships between internet access and poverty, race and ethnicity, and disability).

7. *See* Nirmala Erevelles, Anne Kanga, & Renee Middleton, *How Does it Feel to Be a Problem? Race, Disability, and Exclusion in Educational Policy*, *in* WHO BENEFITS FROM SPECIAL EDUCATION? 77, 77–78 (Ellen A. Brantlinger ed., 2006).

8. *See* Talila A. Lewis, Stolen Bodies, Criminalized Minds & Diagnosed Dissent: The Racist, Classist, Ableist Trappings of the Prison Industrial Complex, Presentation at the 2019 Longmore Lecture in Disability Studies (Feb. 19, 2019), https://www.youtube.com/watch?v=zpY4v10jqXY (recording), https://longmoreinstitute.sfsu.edu/transcript-longmore-lecture-disability-studies-talila-tl-lewis (transcript); *Longmore Lecture: Context, Clarity & Grounding*, TALILA A. LEWIS (Mar. 5, 2019), https://www.talilalewis.com/blog/longmore-lecture-context-clarity-grounding; A.J. WITHERS, DISABILITY POLITICS AND THEORY 98–101 (2012); JENNIFER SCURO, *Intersectionality: A Dialogue with Devonya N. Havis & Lydia X. Z. Brown*, *in* ADDRESSING ABLEISM: PHILOSOPHICAL QUESTIONS VIA DISABILITY STUDIES 41, 54–57 (2018).

regulatory compliance, enforcement, and monitoring mechanisms, regardless of whether underlying socio-cultural values change.[9] As explained by Patricia Berne, a co-founder of the disability justice movement, "the disability rights framework centers people who can achieve status, power and access through a legal or rights-based framework, which we know is not possible for many disabled people, or appropriate for all situations."[10] As an intervention for the limitations of rights-based frameworks, the disability justice framework and praxis offers more expansive ways of building and sustaining access as a practice of love, liberation, *and* justice.[11]

This Article aims to describe the ways that both disability rights and disability justice frameworks can enable and expand education access for disabled students, while providing a foundation for advocating against inaccessibility, inequity, and discrimination in the digital learning environment. Part I of this Article describes the opportunities created by and limitations inherent to existing legal frameworks for disability rights in the educational context. Next, Part II examines the ways in which the COVID-19 pandemic has exacerbated and deepened disabled students' disproportionate lack of equal access to technology, which in turn deprives students of equal access to education. In Part III, we offer some starting points for reshaping curricular and pedagogical methods to center access and attend to historic and ongoing injustice.

---

9. *See, e.g.*, LEAH LAKSHMI PIEPZNA-SAMARASINHA, CARE WORK: DREAMING DISABILITY JUSTICE 47 (2018).

10. Patty Berne, *What Is Disability Justice?*, *in* SKIN, TOOTH, AND BONE: THE BASIS OF MOVEMENT IS OUR PEOPLE, A DISABILITY JUSTICE PRIMER (2d ed.), *adapted at* SINS INVALID (June 16, 2020), https://www.sinsinvalid.org/news-1/2020/6/16/what-is-disability-justice.

11. Mia Mingus, Keynote Speech at the 2018 Disability Intersectionality Summit: "Disability Justice" Is Simply Another Term for Love (Oct. 13, 2018), https://www.youtube.com /watch?v=lm21KpsNk1s (recording), https://leavingevidence.wordpress.com/2018/11/03/ disability-justice-is-simply-another-term-for-love/ (transcript); *see also Ki'tay D. Davidson: A Eulogy*, TALILA A. LEWIS (Dec. 10, 2016), https://www.talilalewis.com/blog/kitay-d-davidson-a-eulogy.

I. LEGAL FRAMEWORKS

A. *The Human Rights and Civil Rights Frameworks: Access to Education and Information as Basic Rights for Disabled People*

The United Nations Convention on the Rights of Persons with Disabilities (CRPD), which was first adopted in 2006 and began to take effect in 2008,[12] is one example of a disability rights legal tool that reflects key concepts found within the social model of disability. The CRPD holds the unique distinction of having the highest number of signatories to a U.N. Convention on its opening day.[13] Although the United States eventually became a signatory on July 30, 2009,[14] the Senate has failed to ratify it, due in large part to lobbying from ageist and nationalist right-wing political factions concerned that the CRPD infringes upon parents' rights to control their own children,[15] and out of a general fear of "infringing on American sovereignty."[16]

The CRPD was crafted as a human rights tool that incorporates the social model of disability by emphasizing the need for accommodation rather than medical intervention, and the need for societal protection of individual rights.[17] The social

---

12. *See generally* Convention on the Rights of Persons with Disabilities, G.A. RES. 61/106, U.N. Doc. A/RES/61/106 (Dec. 13, 2006) [hereinafter CRPD].

13. *Convention on the Rights of Persons with Disabilities (CRPD)*, UNITED NATIONS, https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html (last visited May 17, 2021).

14. Press Release, ACLU, U.S. Signs International Treaty on the Rights of Persons with Disabilities (July 30, 2009), https://www.aclu.org/press-releases/us-signs-international-treaty-rights-persons-disabilities.

15. *See* Rosalind S. Helderman, *Senate Rejects Treaty to Protect Disabled Around the World*, WASH. POST (Dec. 4, 2012), https://www.washingtonpost.com/politics/senate-rejects-treaty-to-protect-disabled-around-the-world/2012/12/04/38e1de9a-3e2c-11e2-bca3-aadc9b7e29c5_story.html (describing how conservatives who voted against ratification argued that the CRPD "could relinquish U.S. sovereignty to a U.N. committee" and that the committee would prevent parents from homeschooling disabled children).

16. STEVEN GROVES, HERITAGE FOUND., NO. 2406, RATIFICATION OF THE DISABILITIES CONVENTION WOULD ERODE AMERICAN SOVEREIGNTY 1 (2010), http://report.heritage.org/bg2406. *See also Guiding Principles of the Convention*, U.N. DEP'T ECON. & SOC. AFFS.: DISABILITY, https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/guiding-principles-of-the-convention.html.

17. *See* CRPD, *supra* note 12, at 3–5.

model of disability recognizes the significant role of social and cultural values and attitudes about disability in creating disabling experiences and marginalizing disabled people,[18] which is clearly articulated in the CRPD's preamble: "disability is an evolving concept and . . . results from the interaction between persons with impairments and attitudinal and environmental barriers that hinders their full and effective participation in society on an equal basis with others."[19] In keeping with the social model's recognition of societal barriers as prime conduits of ableist discrimination, the CRPD recognizes that for people with disabilities to "exercise the . . . freedom to seek, receive and impart information and ideas on an equal basis with others and through all forms of communication of their choice," parties to the Convention must take measures to "[u]rg[e] private entities that provide services to the general public, including through the Internet, to provide information and services in accessible and usable formats for persons with disabilities."[20] And in recognition of the right of disabled people to education, ratifying parties "shall ensure that . . . effective individualized support measures are provided in environments that maximize academic and social development, consistent with the goal of full inclusion."[21] Unfortunately, because the United States has not ratified the CRPD, advocates within the country cannot use its language or

---

18. Fiona Kumari Campbell, *Medical Education and Disability Studies*, 30 J. MED. HUMANS. 221, 227 (2009) ("A social constructionist approach distinguishes between disability and impairment in the same way that early feminist writing distinguishes between gender and sex. This approach understands disability as socially produced or a neologism wrapping around and over impairment. . . . [T]he notion of disability as a relational and cultural concept is now well established. The insights of disability studies have shown that the disability idiom has a history before biomedicalism; indeed, this is a history where the reckoning of bodily and mental differences is both culturally, locally and historically contingent." (footnotes omitted) (citing PATRICK MCDONAGH, IDIOCY: A CULTURAL HISTORY (2008)).

19. CRPD, *supra* note 12, at 2.

20. *Id.* at art. 21.

21. *Id.* at art. 24.

standards in legal forums to assert rights within the elementary, secondary, or postsecondary educational systems.[22]

Nonetheless, the human rights framework for access to education and information advocated within the CRPD tends to align well with the civil rights framework shared in the United States' domestic legal protections for students with disabilities. The U.S. domestic legal framework, largely shaped by the Individuals with Disabilities Education Act (IDEA),[23] the Rehabilitation Act,[24] and the Americans with Disabilities Act (ADA),[25] sets forth certain protections against discrimination in education and to appropriate accommodation and services. Similar to the CRPD's approach, using the social model, the IDEA states that "[d]isability is a natural part of the human experience and in no way diminishes the right of individuals to participate in or contribute to society."[26] Likewise, as an explicit civil rights law, the ADA describes the isolation and segregation of disabled people as "a serious and pervasive social problem."[27] Adopting a social model of disability, the ADA's statement of findings and purpose similarly state that disabled people "continually encounter various forms of discrimination, including outright intentional exclusion, the discriminatory effects of . . . communication barriers, . . . failure

---

22. *See Frequently Asked Questions Regarding the Convention on the Rights of Persons with Disabilities*, U.N. DEP'T ECON. & SOC. AFFS., https://www.un.org/development/desa/disabilities /convention-on-the-rights-of-persons-with-disabilities/frequently-asked-questions-regarding-the-convention-on-the-rights-of-persons-with-disabilities.html (last visited Apr. 1, 2021) (explaining that ratification creates legally binding obligations on state parties). For examples of where American advocates were able to use ratified U.N. treaty language to support their work, see generally Rex D. Glensy, *The Use of International Law in U.S. Constitutional Adjudication*, 25 EMORY INT'L L. REV. 197 (2011) and Sylvana M. Falcón, *Invoking Human Rights and Transnational Activism in Racial Justice Struggles at Home: US Antiracist Activists and the UN Committee to Eliminate Racial Discrimination*, 4 SOC'YS WITHOUT BORDERS 295 (2009).

23. Individuals with Disabilities Education Act, 20 U.S.C. §§ 1400–1482.

24. Rehabilitation Act of 1973, 29 U.S.C. §§ 701–796l.

25. Americans with Disabilities Act of 1990, 42 U.S.C. §§ 12101–12213.

26. 20 U.S.C. § 1400(c)(1). The Act Congress originally enacted in 1975, known today as the IDEA, was called the "Education for All Handicapped Children Act." *A History of the Individuals with Disabilities Education Act*, U.S. DEP'T OF EDUC., [hereinafter *A History of the IDEA*] https://sites.ed.gov/idea/IDEA-History (Nov. 24, 2020).

27. 42 U.S.C. § 12101 (a)(2).

to make modifications to existing facilities and practices, . . . segregation, and relegation to lesser services, programs, activities, benefits, jobs, or other opportunities."[28]

The Rehabilitation Act of 1973 focuses less on societal barriers and more on the provision of services to disabled people as a means of mitigating impairment and enabling participation in the workforce, grounded primarily in a more medicalized understanding of disability.[29] Section 504 of the Rehabilitation Act, however, guarantees disabled people the right to nondiscrimination in all federally funded programs and activities, including the right to equal access and reasonable accommodations in any educational institutions or agencies receiving federal assistance.[30]

Likewise, Title II of the ADA prohibits *all* public entities, including state and local governments, or any instrumentality of such government, regardless of whether they receive federal financial assistance, from discriminating against people with disabilities.[31] The non-discrimination standards under Section 504 and Title II are essentially the same: actions that would violate Section 504 would also violate Title II, and vice-versa.[32]

---

28. § 12101 (a)(5).

29. *See* 29 U.S.C. § 701(b) ("The purposes of this chapter are (1) to empower individuals with disabilities to maximize employment, economic self-sufficiency, independence, and inclusion and integration into society . . . (4) to increase employment opportunities and employment outcomes for individuals with disabilities . . . ."). *See also* 29 U.S.C. § 705(9) ("The term 'disability' means . . . a physical or mental impairment that constitutes or results in a substantial impediment to employment . . . .").

30. Rehabilitation Act of 1973, Pub. L. No. 93-112, § 504, 87 Stat. 355, 394 (codified as amended at 29 U.S.C. § 794(a)).

31. Americans with Disabilities Act of 1990, Pub. L. No. 101–336, §§ 201–202, 104 Stat. 327, 337 (codified as amended at 42 U.S.C. § 12132).

32. *Disability Discrimination Frequently Asked Questions*, U.S. DEP'T OF EDUC. OFF. FOR C.R., https://www2.ed.gov/about/offices/list/ocr/frontpage/faq/disability.html (Apr. 21, 2020). In cases where Title II requirements exceed requirements for Section 504, public school districts, colleges, universities, and libraries must adhere to the higher Title II standard. *Id.* Public charter schools, magnet schools, and essentially all private colleges and universities are also covered by Section 504 because they participate in federal student aid programs which receive federal assistance. *Id.* Section 504 and Title II do not apply to private schools that do not receive federal assistance. *Id.*

The IDEA created two important rights: the right to a "free appropriate education" (FAPE) to all disabled students between the ages of three and eighteen, with certain applicable exceptions as may apply according to state law,[33] and the right to education in the "least restrictive environment" possible, as opposed to segregated or institutionalized environments.[34] These rights can only be guaranteed when disabled students receive adapted, accommodated, or specialized instruction and support enabling access to the same general curriculum and educational standards applied to nondisabled students.[35]

Finally, the Every Student Succeeds Act of 2015 (ESSA) aims to "increase access to personalized, rigorous learning experiences supported by technology by providing technical assistance to local educational agencies to improve the ability of local educational agencies to . . . use technology, consistent with the principles of universal design for learning . . . ."[36]

In 1999, the Supreme Court clarified in *Olmstead v. L.C.* that the ADA bars unjustified segregation and isolation of disabled people as a form of unlawful discrimination that "perpetuates unwarranted assumptions that persons so isolated are incapable of or unworthy of participating in community life . . . ."[37] Long considered a seminal case in disability rights history, *Olmstead*'s articulation of the community integration mandate in the ADA sets a high standard for advocating against isolation or institutionalization of disabled people, including through segregated educational settings and programs.[38] More recently, the Supreme Court held in *Endrew F. v. Douglas County*

---

33. *See* 34 C.F.R. § 300.101 (2017) (stating the general requirements for FAPE); §300.102 (2017) (describing the exceptions for certain ages).

34. *See* 34 C.F.R. § 300.114 (2012); *see also infra* text accompanying notes 45–46.

35. 34 C.F.R. § 300.39(b)(3) (2018).

36. Every Student Succeeds Act of 2015, Pub. L. No. 114-95, § 4014, 129 Stat. 1802, 1973 (codified at 20 U.S.C. § 7114(b)(3)(c)); Am. Inst. for Rsch., ESSA and Digital Learning: Closing the Digital Accessibility Gap 3 (2018), https://www.air.org/resource/essa-and-digital-learning-closing-digital-accessibility-gap.

37. 527 U.S. 581, 600 (1999) (citing Allen v. Wright, 468 U.S. 737, 755 (1984)).

38. *See* Olmstead v. L.C., Disability Just., https://disabilityjustice.org/olmstead-v-lc/ (last visited May 17, 2021).

School District that IDEA requires schools to give disabled students more than the minimal possible benefit of their education,[39] and in a significant district court decision, the District Court for the Central District of California recognized in *P.P. v. Compton Unified School District* that the experience of trauma can, possibly, constitute legally cognizable disability under the ADA or Rehabilitation Act.[40]

Despite these enormous strides in legislative and jurisprudential history, disabled people continue to experience ableism throughout the educational system. For instance, according to the U.S. Department of Education's Civil Rights Data Collection, Black and Latinx students with disabilities face the highest rates of suspensions, expulsions, restraint, and seclusion (i.e., functional solitary confinement in schools) compared to any other group.[41] Stanford University recently faced a class-action lawsuit from students who alleged they were pressured into an involuntary medical leave of absence

---

39.   137 S. Ct. 988, 1001 (2017) ("When all is said and done, a student offered an educational program providing 'merely more than *de minimis*' progress from year to year can hardly be said to have been offered an education at all. . . . The IDEA demands more. It requires an educational program reasonably calculated to enable a child to make progress appropriate in light of the child's circumstances.").

40.   135 F. Supp. 3d 1098, 1103 (C.D. Cal. 2015) ("The [c]ourt does not endorse the legal position that exposure to two or more traumatic events is, without more, a cognizable disability under either of the Acts. The [c]ourt simply acknowledges the *allegations* that exposure to traumatic events *might* cause physical or mental impairments that *could* be cognizable as disabilities under the two Acts."). *But see* Cory Turner, *Ruling in Compton Schools Case: Trauma Could Cause Disability*, NPR (Oct. 1, 2015, 4:38 PM), https://www.npr.org/sections/ed/2015/10/01/445001579/ruling-in-compton-schools-case-trauma-could-cause-disability (noting that Judge Fitzgerald was "not questioning whether exposure to traumatic events *can* disable a student," but that "exposure to traumatic events does not *guarantee* disability.").

41.   *K–12 Education: Federal Data and Resources on Restraint and Seclusion: Hearing on GAO-19-418T Before the Subcomm. on Early Childhood, Elementary & Secondary Educ. of the H. Comm. on Educ. & Labor* 116th Cong. 4 (2019) (statement of Jacqueline M. Nowicki, Dir., Educ. Workforce, & Income Sec.); U.S. COMM'N ON C. R., BEYOND SUSPENSIONS: EXAMINING SCHOOL DISCIPLINE POLICIES AND CONNECTIONS TO THE SCHOOL-TO-PRISON PIPELINE FOR STUDENTS OF COLOR WITH DISABILITIES 64–65, 65 fig. 4 (2019); Tamar Lewin, *Black Students Face More Discipline, Data Suggests*, N.Y. TIMES (Mar. 6, 2012), https://www.nytimes.com/2012/03/06/education/black-students-face-more-harsh-discipline-data-shows.html.

when struggling with their mental health.[42] While students in theory have legal protections against discriminatory discipline whether in elementary school or college, these examples illustrate larger, growing problems—disability rights laws can help fight back, but they cannot transform social and cultural values about disability alone.

B. *Moving from Rights Frameworks Toward Disability Justice to Urge Access-Centered Social and Cultural Change*

The disability rights movement, which is grounded in the social model of disability, recognizes disabled people as a minoritized community deserving of (but denied) equal access, equality of opportunity, and equal rights within the sociopolitical sphere.[43] The social model of disability distinguishes between impairment (a bodily/mental difference or atypicality) and disability (society's understanding of impairment and the resulting social exclusion of people with impairments).[44]

Students with disabilities, in particular students of color with disabilities as well as students labeled as autistic or as having an intellectual disability, are disproportionately segregated out of general education, removed from instructional and social opportunities as a matter of practice.[45] These underlying norms

---

42. Anemona Hartocollis, *Feeling Suicidal, Students Turned to Their College. They Were Told to Go Home.*, N.Y. TIMES (Aug. 28, 2018), https://www.nytimes.com/2018/08/28/us/college-suicide-stanford-leaves.html. Students at Georgetown have also reported feeling pressured to take leaves of absence. *See* Julia Jester, *Take It or Leave It: Does a Medical Leave of Absence Help or Harm?*, GEO. VOICE (Nov. 6, 2014), https://georgetownvoice.com/2014/11/06/take-it-or-leave-it-does-a-medical-leave-of-absence-help-or-harm.

43. *See* Michael Ashley Stein & Penelope J.S. Stein, *Beyond Disability Civil Rights*, 58 HASTINGS L.J. 1203, 1209 (2007) ("Because social model advocacy is grounded exclusively in formal equality notions, legislatures have promulgated civil rights protection; by definition these antidiscrimination prohibitions do not encompass positive rights such as equality measures. Put another way, civil rights are directed at ensuring equal treatment but not equal opportunity.").

44. Sara Goering, *Rethinking Disability: The Social Model of Disability and Chronic Disease*, 8 CURRENT REVS. MUSCULOSKELETAL MED. 134, 135 (2015).

45. NAT'L COUNCIL ON DISABILITY, IDEA SERIES: THE SEGREGATION OF STUDENTS WITH DISABILITIES 9 (2018).

and ideologies are grounded in ableist judgements about "normality," and directly impact the educational trajectories of students with disabilities and severely limit how disabled people obtain access to education.[46] An important insight of the social model of disability is that if structural barriers were addressed, disablement[47] could be substantially reduced. The disability rights movement aims to change the social conditions for disabled people by changing laws and policies, whether by expanding and/or enforcing existing legal protections, repealing harmful laws, or creating new mechanisms for legal protection.[48]

The Rehabilitation Act, ADA, and IDEA all attempt to incorporate the values of the disability rights framework, and they all seek to address structural barriers to equal access and equal rights by remediating or removing those barriers and legislating equitable treatment via reasonable accommodation and nondiscrimination.[49] These laws have been around for some time: the ADA was passed in 1990, the Rehabilitation Act was passed in 1973, and what is known today as the IDEA was

---

46. *See id.* at 33–36.

47. Kathy Cologon, *"What Is Disability? It Depends Whose Shoes You Are Wearing": Parent Understandings of the Concept of Disability*, 36 DISABILITY STUDS. Q., no. 1, 2016, https://dsq-sds.org/article/view/4448. The social model of disability focuses not on a deficit-based understanding of disability, but on the economic, environmental, and cultural barriers encountered by people who are labelled or designated as "impaired." *See id.* It locates disability in the society and recognizes "disablement" as a "socially imposed process consisting of barrier encountered by people who are labelled or designated as 'impaired.'" *Id.*

48. *See generally* SAMUEL R. BAGENSTOS, LAW AND THE CONTRADICTIONS OF THE DISABILITY RIGHTS MOVEMENT (2009) (examining the history of the disability rights movement and its relationship to the passage of the ADA).

49. *See generally* LENNARD J. DAVIS, ENABLING ACTS: THE HIDDEN STORY OF HOW THE AMERICANS WITH DISABILITIES ACT GAVE THE LARGEST US MINORITY ITS RIGHTS (2015) (recounting the political history of the ADA and its predecessor, the Rehabilitation Act); KIM E. NIELSEN, A DISABILITY HISTORY OF THE UNITED STATES (2012) (discussing the history of disability in the United States, including the enactment of the Rehabilitation Act, the ADA, and IDEA); JOSEPH P. SHAPIRO, NO PITY: PEOPLE WITH DISABILITIES FORGING A NEW CIVIL RIGHTS MOVEMENT (2012) (discussing the immediate impacts, victories, and challenges that followed the enactment of the ADA).

originally enacted in 1975.[50] Yet, their promises for the most marginalized disabled people remain unfulfilled.

Recent years have seen attempts to pass different versions of the Keeping All Students Safe Act, a bill that would severely restrict the use of restraint, seclusion, and painful aversive interventions in schools, and which was first introduced in the House of Representatives 2009.[51] In the same way earlier legislation sought to address structural harm against disabled students in education by changing the environment and systems surrounding disabled students, this legislative proposal likewise seeks to change the conditions to which disabled students are subjected and the environments in which disabled students learn, rather than attempting to change or fix disabled students themselves.[52] By understanding disability as a problem primarily located in society or culture, rather than one located in the brains or bodies of disabled people as necessarily defective, the social model requires changing or fixing society and culture.[53]

The disability justice framework, however, moves beyond the limitations of both the rights framework and the pure social constructivist understanding of the social model by incorporating the radical model of disability that posits disability as a biopolitical category inextricably connected with multiple systems of power, oppression, and domination.[54] As a framework that focuses on the necessity of intersectionality and

---

50. *See* Rehabilitation Act of 1973, Pub. L. No. 93-112, 87 Stat. 355 (1973) (codified as amended at 29 U.S.C. §§ 701–796l); Americans with Disabilities Act of 1990, Pub. L. No. 101-336, 104 Stat. 328 (codified at 42 U.S.C. §§ 12101–12213); *A History of the IDEA, supra* note 26.

51. Keeping All Students Safe Act, H.R. 4247, 111th Cong. (2009). Most recently, the bill was introduced in the Senate in November 2020, but it did not receive a vote. Keeping All Students Safe Act, S. 4924, 116th Cong. (2020).

52. *See* Robin Roscigno, *Semiotic Stalemate: Resisting Restraint and Seclusion Through Guattari's Micropolitics of Desire*, 9.5 CANADIAN J. DISABILITY STUDS. 156, 162–63 (2020); *see also, e.g.,* JESSICA BUTLER, HOW SAFE IS THE SCHOOLHOUSE? AN ANALYSIS OF STATE SECLUSION AND RESTRAINT LAWS AND POLICIES 51 (2019), https://autcom.org/pdf/HowSafeSchoolhouse.pdf (listing states that have banned or limited seclusion as a way to deal with disabled students).

53. *See* Lydia X. Z. Brown, *Disability in an Ableist World, in* CRIPTIQUES 37, 43 (Caitlin Wood ed., 2015).

54. *See* WITHERS, *supra* note 8, at 98.

cross-community solidarity and movement building, disability justice understands that legal reforms are necessary but not sufficient.[55] In thinking about education, the disability justice framework directly upends ableism, as what disability justice advocate and community lawyer Talila TL Lewis describes as a system rooted in "societally constructed ideas of normalcy, intelligence, excellence and productivity" used to determine "who is valuable and worthy based on a person's appearance and/or their ability to satisfactorily [re]produce, excel and 'behave.'"[56] Fully addressing systemic and structural barriers to equal access—digital or otherwise—in education requires moving beyond the limitations of the disability rights legal framework.

II. SYSTEMIC AND STRUCTURAL BARRIERS TO DIGITAL ACCESS IN EDUCATION: IMPLICATIONS DURING A PANDEMIC

A. *How COVID-19 Widened the Disability Digital Divide*

The "digital divide" refers to the gap in both opportunities to access information and communication technologies; these differences fall along socio-economic lines, resulting in disparate internet usage.[57] Disabled people are at least twice as likely to become impoverished as people without disabilities, which undoubtedly contributes to the relatively fewer number

---

55. There are ten principles of disability justice: (1) "Intersectionality," (2) "Leadership of those Most Impacted," (3) "Anti-capitalistic Politic," (4) "Commitment to Cross-movement Organizing," (5) "Recognizing Wholeness," (6) "Sustainability," (7) "Commitment to Cross-disability Solidarity," (8) "Interdependence," (9) "Collective Access," and (10) "Collective Liberation." *10 Principles of Disability Justice*, SINS INVALID (Sept. 17, 2015), https://www.sinsinvalid.org/blog/10-principles-of-disability-justice.

56. *Ableism 2020: An Updated Definition*, TALILA A. LEWIS (Jan. 25, 2020), https://www.talilalewis.com/blog/ableism-2020-an-updated-definition. Lewis also defines ableism as explicitly rooted in capitalism, colonialism, anti-Blackness, and eugenics. *Id.*

57. *What Is the Digital Divide?*, SAN DIEGO FOUND. (Sept. 19, 2020), https://www.sdfoundation.org/news-events/sdf-news/what-is-the-digital-divide.

of disabled people with internet access today.[58] We know that disabled people have extremely varied access needs, and therefore the extent to which particular disabled people use or have access to information and communication technologies (ICT), devices, and services varies accordingly.[59] The unique barriers facing people with disabilities as it relates to access and use of the internet are referenced as the "disability digital divide."[60] The disability digital divide is a civil rights issue first and foremost. This difference in internet usage and participation hurts many disabled people because it worsens their alienation and perpetuates educational disparity for students with disabilities.[61] For example, people with disabilities are significantly more likely than those without a disability to say they never go online.[62] Disabled people are also much less likely to say they subscribe to home broadband and

58. *See Highlighting Disability / Poverty Connection, NCD Urges Congress To Alter Federal Policies that Disadvantage People with Disabilities*, Nat'l Council on Disability (Oct. 26, 2017), https://ncd.gov/newsroom/2017/disability-poverty-connection-2017-progress-report-release.

59. *See Assistive and Mainstream Technologies for People with Disabilities, in* The Future of Disability in America 183, 196 (Alan M. Jette & Marilyn J. Fields eds., 2007). People with disabilities make use of a number of assistive technologies of various types which help them to increase, maintain, or improve their functional capabilities. Due in part to federal policy requirements, the technology industry has developed a range of software and hardware which augment individual capabilities, making it possible for people with vision, hearing, speech and other impairments to access digital technologies. Assistive technology is an umbrella category that covers a wide range of products designed to accommodate impairments, for example, adaptive assistive devices like computer screen readers. Computer screen readers make digital displays (which are inaccessible without adaptation), usable by people with low vision by allowing them to hear what is shown on the screen. *Id.* at 187–88. For additional discussion on how widely students with disabilities' needs vary, see Lauren Camera, *Schools Struggle to Educate Students with Disabilities amid Pandemic*, U.S. News & World Rep. (Apr. 15, 2020, 3:01 PM), https://www.usnews.com/news/education-news/articles/2020-04-15/schools-struggle-to-educate-students-with-disabilities-amid-pandemic ("For students with disabilities, needs vary greatly based on the specific impairment—encompassing everything from auditory to visual to cognitive to physical and more. As a result, individualized education plans run the gamut, from extra time for tests and personalized tutoring, to a special education aide dedicated to a student for the entirety of the school day.").

60. *See* María Rosalía Vicente & Ana Jesús López, *A Multidimensional Analysis of the Disability Digital Divide: Some Evidence for Internet Use*, 26 Info. Soc'y 48, 50 (2010).

61. *See What Is the Digital Divide?, supra* note 57.

62. Monica Anderson & Andrew Perrin, *Disabled Americans Are Less Likely To Use Technology*, Pew Rsch. Ctr. (Apr. 7, 2017), https://www.pewresearch.org/fact-tank/2017/04/07/disabled-americans-are-less-likely-to-use-technology.

to report lower levels of comfort with technology.[63] According to the Pew Research Center, "even among younger adults, people with a disability are less likely to report using digital technology;" the Center cites the percentage of disabled Americans ages 18–64 who report ownership of a desktop or laptop computer at 67% as compared to 84% of their nondisabled peers.[64] Technology adoption,[65] which refers to the acceptance, integration, and use of new technology in society (inclusive of internet usage and computing devices, smartphones, tablets, and other mobile devices), is lower among people with disabilities across the board, regardless of age.[66] The abrupt move to remote learning environments during the COVID-19 pandemic made plain many technology-related disparities,[67] including in home access to internet services and digital devices, and for students with disabilities, the barriers were manifold.[68]

---

63. *Id.* Fifty-seven percent of Americans with disabilities report having home broadband as compared to 76% of Americans without a disability. *Id.* The State Health Access Data Assistance Center (SHADAC), a multidisciplinary health policy research center focused on state policy, reports similar disparities in digital equality among people with disabilities including statistics on home broadband access and Internet access more generally. *See Internet Access Measures the Impact of the Digital Divide and COVID-19*, St. Health Access Data Assistance Ctr. (Mar. 27, 2020), https://www.shadac.org/news/internet-access-measures-impact-digital-divide-and-covid-19. SHADAC reports on national and state-level figures showing that households including someone with a disability were 14% less likely to have broadband internet access than households that did not include anyone with a disability (76% vs. 88.1%). *Id.* According to SHADAC, on a national level, households where someone with a disability resided were, on average, approximately 14% less likely to have broadband internet access than households that did not include a person with a disability. *Id.*

64. Anderson & Perrin, *supra* note 62.

65. *See* Evan T. Straub, *Understanding Technology Adoption: Theory and Future Directions for Informal Learning*, 79 Rev. Educ. Rsch. 625, 626 (2009) ("Adoption theory examines the individual and the choices an individual makes to accept or reject a particular innovation.").

66. Anderson & Perrin, *supra* note 62.

67. *Id.*

68. Camera, *supra* note 59 (describing the "confluence of circumstances" that made the transition to remote learning more difficult for students with disabilities: "The sudden crush of COVID-19 cases forced schools to close with little to no time to plan for how they would transition students to a comprehensive and effective distance learning model, especially for students with disabilities who have individualized learning plans tailored to their specific needs. . . . Meanwhile, largely lost in the rapid response to establish something—anything—that would allow students to continue learning, were students with disabilities, the very students who research shows are most negatively impacted by lost learning time.").

The disability digital divide affects disabled people of color and low-income disabled people more acutely than others, and to an even greater degree during the pandemic, given the disproportionate impacts of COVID-19 at the nexus of race, class, and disability.[69] Complex challenges reflecting second-level digital divides include disparities in school resources for assistive technologies, which impact key aspects of the educational environment, for example, whether digital tools are integrated into a curriculum for students with disabilities at all, which necessarily impacts the availability of complementary teacher training.[70] Other factors include attitudes about students with disabilities as it relates to digital skills development; these gaps were both more visible and more pronounced during COVID-19.[71] These are just a few of the structural issues which shape technology use and access, and serve to exacerbate existing educational inequalities.

The complex structural barriers facing students with disabilities[72] were made worse during the COVID-19 pandemic when educational services transitioned to remote instruction.[73]

---

69. *See* NAT'L DISABILITY INST., RACE, ETHNICITY AND DISABILITY: THE FINANCIAL IMPACT OF SYSTEMIC INEQUALITY AND INTERSECTIONALITY 1–2 (2020); *see also* Stephen Frost, *Deadly Discrimination: The Forgotten Impact of Covid-19 on People with Disabilities*, FORBES (July 6, 2020, 5:35 AM), https://www.forbes.com/sites/sfrost/2020/07/06/deadly-discrimination.

70. The "second-level digital divide" refers to the indirect but multifaceted factors affecting society with the potential for social exclusion, and it pertains to the subtle divisions in how technology is utilized. *See* Patricia A. Tyson, *The Digital Divide and Inequities for Students with Disabilities: Needed… A Bridge over Troubled Waters!*, J. AM. ACAD. SPECIAL EDUC. PROS., Spring/Summer 2015, at 151, 153.

71. *See generally* Frost, *supra* note 69 (discussing the lack of resources and consideration given to the disability community that results from their exclusion from decision-making and distribution roles); *see also* Camera, *supra* note 59 (discussing the challenges of educating children with disabilities amid the COVID-19 pandemic).

72. *See supra* text accompanying notes 45–48.

73. *See* GLOB. STRATEGY GRP., PARENTS' SURVEY IDENTIFIES ONGOING EDUCATION NEEDS FOR NEW YORK FAMILIES (2020), https://edtrustmain.s3.us-east-2.amazonaws.com/wp-content/uploads/sites/5/2020/06/26111501/NY-Public-School-Parents-Memo-6.29.20.pdf. According to a poll of 800 parents of children in New York public schools, only 26% of schools were providing instructional materials for students with disabilities as of June 2020. *Id.* A separate Education Trust poll conducted among 1200 parents in California in the Spring of 2020 showed 24% of parents reporting that schools were providing instructional materials for students with disabilities. Sonali Kohli, *Stress Levels Are High for Parents. They Worry Kids Will*

Means of virtual learning, including popular video conferencing tools, can lack accessibility features.[74] School administrators scrutinized online platforms like Zoom and Microsoft Teams, used on a widespread basis during the pandemic, because of difficulties encountered by some students with disabilities.[75] These online platforms are not fully

Fall Behind in School, Survey Finds, L.A. TIMES (Apr. 8, 2020, 3:45 PM), https://www.latimes .com/california/story/2020-04-08/coronavirus-parents-students-school-stress-level-survey.

74. *See* Sarah Katz, *The Inaccessible Internet*, SLATE (May 22, 2020, 12:14 PM), https://slate.com /technology/2020/05/disabled-digital-accessibility-pandemic.html (describing how COVID-19 led to increased visibility on these existing issues: "[N]ow, as we shift to working, schooling, shopping, and communicating virtually, the pandemic is showing how many holes remain in digital accessibility. From the absence of captioning to technical obstacles to blatant disregard for who even has access to the internet, these holes are everywhere: in health care, the workplace, [and] education . . . ."). The digital accessibility needs of students with disabilities largely depend on the situation, and in remote learning environments, inaccessibility is a consistent barrier. *See* Adrianne Gibilisco, *The Impact of COVID-19 on Students with Disabilities*, UNC OFF. OF THE PROVOST: DIVERSITY & INCLUSION (June 30, 2020), https://diversity .unc.edu/2020/06/the-impact-of-covid-19-on-students-with-disabilities. Virtual learning tools, including video conferencing tools do not always include accessibility features, and even in cases where they do, it may be up to the teacher and school administration to implement them appropriately. *See id.* For example, "[s]tudents who are sight-impaired may need voice activation for audio access or bigger onscreen images for easier viewing." *Id.* Captioning is an important accessibility feature that may require school administrators to plan in advance for live captioning of video-based instruction as well as for asynchronous video materials. *See id.* Accessibility on web-based platforms presents similar challenges. *See id.*; David E. Johnson, *A Problem That Can't Be Ignored: Online Learning Hurts Special Ed Students*, SAN ANTONIO REP. (Feb. 2, 2021), https://sanantonioreport.org/disruption-of-educational-services-during-pandemic-is-hurting-san-antonios-low-income-special-education-students-of-color ("[S]ome online learning practices inherently present barriers to persons with disabilities. Uncaptioned videos are not accessible to students who are deaf, content presented with graphic images only is not accessible to individuals who are blind, disorganized content cluttered on a page creates barriers to some students with learning disabilities and attention deficits, and web pages that require using a mouse are inaccessible to those who cannot operate one.").

75. Faith Hill, *The Pandemic Is a Crisis for Students with Special Needs*, ATLANTIC (Apr. 18, 2020), https://www.theatlantic.com/education/archive/2020/04/special-education-goes-remote-covid-19-pandemic/610231. A school administrator in a school serving deaf and hard-of-hearing students described the difficulty in using Zoom for ASL classes, who said that when too many students are in the display, it becomes harder and harder for students to see and understand signs. *Id.* The administrator added that "[s]o much of ASL is communicated through physical nuance in the immediate space, and I think that is not easy to catch on a screen." *Id.* Additionally, online platforms like Zoom and Microsoft Teams, and printed work packets provided by teachers, "just aren't accessible" because "[s]tudents with disabilities often use assistive technology . . . [b]ut a lot of online platforms aren't compatible with assistive technology—and even when they are, other problems frequently arise." *Id. But see* Claudio Luis Vera, *Which Video Conferencing Tools Are Most Accessible?*, SMASHING MAG. (June 15, 2020), https://www.smashingmagazine.com/2020/06/accessible-video-conferencing-tools ("Ask

compatible with many assistive and augmentative technologies, including screen-reader software or Braille readers, and in instances where there is some compatibility, there are other problems that interfere with the quality of education received.[76]

Students may also have limited internet access because of the expense or the geographic availability of services.[77] In addition to compatibility conflicts for students with access to assistive technology, students in districts with limited resources may

anyone in the disability community about video conferencing tools, and they will almost certainly point you to Zoom. There's no shortage of favorable opinions and anecdotal support for Zoom in the disability community, as the app has a reputation for providing a consistently high level of access."); Jennimai Nguyen, *Zoom's New Feature Makes Sure You'll Catch Every Word of the Meeting*, MASHABLE (Oct. 29, 2020), https://mashable.com/article/-zoom-live-captions/; Rochelle Bowyer, *UW Isn't 'Boundless' for Students with Disabilities*, DAILY (Apr. 13, 2020), https://www.dailyuw.com/opinion/article_2c8b2e90-7d1b-11ea-81ff-df2a491a4478.html (describing how Zoom Pro offers additional disability features such as closed captioning, automatic transcripts, screen reader support, and keyboard accessibility).

    76. Hill, *supra* note 75.

    77. *See* Emily A. Vogels, *59% of U.S. Parents with Lower Incomes Say Their Child May Face Digital Obstacles in Schoolwork*, PEW RSCH. CTR. (Sept. 10, 2020), https://www.pewresearch.org/fact-tank/2020/09/10/59-of-u-s-parents-with-lower-incomes-say-their-child-may-face-digital-obstacles-in-schoolwork. Cost is one of the barriers cited as a primary reason why U.S. households do not subscribe to internet services. *See id.* The Pew Research Center has published a number of studies spanning at least the last six years showing that the cost of broadband is a substantial challenge. *Cf. id.* (finding strong correlation between income level and obstacles to distance learning). Disparities in home broadband adoption rates (the digital divide) produces concerns related to students' ability to access remote learning during school closures. *See* John B. Horrigan & Maeve Duggan, *Home Broadband 2015*, PEW RSCH. CTR. (Dec. 21, 2015), https://www.pewresearch.org/internet/2015/12/21/home-broadband-2015/ (identifying cost as the predominant barrier to respondents obtaining broadband internet). An April 2020 survey showed that 29% of parents with homebound, school-aged children said it was very or somewhat likely their children would have to do their schoolwork on a cellphone. *See* Vogels, *supra*. Twenty-one percent of parents said they did not have access to a computer at home and 22% said they did not have reliable internet connectivity at home. *See id.* As it relates to the geographic dimensions of the digital divide, the Federal Communications Commission estimates that 27% of people living in rural areas do not have internet access. Joyce Winslow, *America's Digital Divide*, PEW TRUST MAG. (July 26, 2019), https://pew.org/35A4Wlj. On this point regarding broadband adoption as it relates to the cost of internet services and the geographic dimensions of the digital divide, the FCC adds further comment on data showing overall adoption rates that, "in general, these data suggest that the average household adoption rate in a county increases with median household income and population density, and decreases with increases in the poverty rate and rural population rate." FED. COMMC. COMM'N., GN DOCKET NO. 20-269, IN THE MATTER OF INQUIRY CONCERNING DEPLOYMENT OF ADVANCED TELECOMMUNICATIONS CAPABILITY TO ALL AMERICANS IN A REASONABLE AND TIMELY FASHION 32 (2021).

also lack adequate hardware, software, and broadband access.[78] Because broadband access, technology adoption, and comfort with technology are lower across the board for people with disabilities,[79] a lack of technological resources at home or in schools compounds these issues for students with disabilities.

Disabled students of all ages lack adequate support and care around accessible technology solutions.[80] Educational institutions all over the country turned to technological stopgap solutions during the pandemic.[81] As schools implemented emergency preparedness and response plans, transitioning to remote instruction, many students with disabilities were left behind.[82] It became clear as the weeks of school closures turned to months that there are not appropriate technological

---

78. *See* U.S. DEP'T OF EDUC. OFF. OF EDUC. TECH., REIMAGINING THE ROLE OF TECHNOLOGY IN EDUCATION: 2017 NATIONAL EDUCATION TECHNOLOGY PLAN UPDATE 21–22 (2017), https://tech.ed.gov/files/2017/01/NETP17.pdf.

79. *See, e.g.*, Anderson & Perrin, *supra* note 62; *Internet Access Measures the Impact of the Digital Divide and COVID-19*, *supra* note 63.

80. Charlotte McClain-Nhlapo, *An Inclusive Response to COVID-19: Education for Children with Disabilities*, GLOB. P'SHIP FOR EDUC. (May 11, 2020), https://www.globalpartnership.org/blog/inclusive-response-covid-19-education-children-disabilities.

81. Elizabeth A. Harris, *'It Was Just Too Much': How Remote Learning Is Breaking Parents*, N.Y. TIMES (June 12, 2020), https://www.nytimes.com/2020/04/27/nyregion/coronavirus-homeschooling-parents.html.

82. *Special Education During COVID-19: Stories from Across California*, DISABILITY RTS. CAL. (Dec. 12, 2020), https://www.disabilityrightsca.org/post/special-education-during-covid-19-stories-from-across-california. Anecdotal reports from Disability Rights California (DRC), an agency designated under federal law to protect and advocate for the rights of Californians with disabilities, cites inconsistencies in special education resources during COVID-19 related school closures:

> But some school districts have failed to provide the special education services that students desperately need. These districts failed to conduct needed assessments, ignored families' requests for in-home assistance, disciplined students who could not comply with the distance learning rules because of their disabilities, denied needed assistive technology and discriminated against disabled students in their reopening policies.

Id. (footnotes omitted).

supports[83] that would allow adequate access to the services and resources that students with disabilities need.[84]

There has been widespread concern among teachers and researchers that in a distance-learning setting, the barriers that arise for students with disabilities will lead to students' skills significantly regressing[85] due to the digital accessibility gap,[86] and a lack of consideration to digital inclusion. Millions of

---

83. As of 2020, web content accessibility hovered at only 2%, meaning that nearly all web content failed to meet the international standards for making web content accessible to people with disabilities. *See* Lydia X. Z. Brown, *How to Center Disability in the Tech Response to COVID-19*, BROOKINGS (July 20, 2020), https://www.brookings.edu/techstream/how-to-center-disability-in-the-tech-response-to-covid-19.

84. The pandemic has had a significantly negative impact on whether and how disabled people access their rights to education. It has disrupted educational access for all students, but remote learning, intended to mitigate that disruption, has introduced insurmountable barriers for students with disabilities. "[S]tudents with disabilities are facing barriers on account of the absence of required equipment, access to the internet, accessible materials and support necessary to permit them to follow online school programs. As a result, many students with disabilities are being left behind, particularly students with intellectual disabilities." *See* U.N. HUM. RTS. OFF. OF THE HIGH COMM'R, COVID-19 AND THE RIGHTS OF PERSONS WITH DISABILITIES: GUIDANCE 6 (Apr. 29, 2020), https://www.ohchr.org/Documents/Issues/Disability/COVID-19_and_The_Rights_of_Persons_with_Disabilities.pdf.

85. *See* James D. Basham, Jose Blackorby & Matthew T. Marino, *Opportunity in Crisis: The Role of Universal Design for Learning in Educational Redesign*, 18 LEARNING DISABILITIES: CONTEMP. J. 71, 73 (2020).

86. The digital accessibility gap refers to gaps in the implementation of universal design principles in Edtech and website design to meet federal requirements for digital accessibility. *See* ALISE CROSSLAND, KRISTIN RUEDEL & MARSHAL CONLEY, AM. INST. FOR RSCH., PRESENTATION AT SXSW EDU, CALL TO ACTION: CLOSING THE DIGITAL ACCESSIBILITY GAP (2018) (PowerPoint presentation available at https://powerupwhatworks.org/resource/call-action-closing-digital-accessibility-gap). Digital accessibility is the "ability of a website, mobile application, or electronic document to be easily navigated and understood by all users of varied abilities, including those who have visual, auditory, motor, or cognitive disabilities." Amihai Miron, *A Lesser Known Impact of COVID-19: People with Disabilities May Be Denied Access to Online Resources*, GLOBENEWSWIRE (May 20, 2020, 10:03 AM), http://www.globenewswire.com/news-release/2020/05/20/2036492/0/en/A-Lesser-Known-Impact-of-COVID-19-People-with-Disabilities-May-Be-Denied-Access-to-Online-Resources.html. The 2017 National Education Technology Plan discusses that learning experiences enabled by technology should be accessible to all learners and it goes on to describe the importance of digital accessibility:

> Supports to make learning accessible should be built into learning software and hardware by default . . . . Modern public buildings include features such as ramps, automatic doors, or braille on signs to make them accessible by everyone. In the same way, features such as text-to-speech, speech-to-text, enlarged font sizes, color contrast, dictionaries, and glossaries should be built into educational hardware and software to make learning accessible to everyone.

U.S. DEP'T OF EDUC. OFF. OF EDUC. TECH., *supra* note 78.

students are at risk of severe learning loss during the coronavirus pandemic and the most vulnerable are students with disabilities and those living in deep poverty.[87] School administrators have even said that these students will see "historic academic regression."[88] While the law allows parents to request compensatory services if they can show that their child has actually regressed from where they were on the last day of in-person schooling before the pandemic, receiving these services may be difficult given that there will likely be a large number of eligible families, creating a bottleneck.[89]

B. *Individualized Education Plans and FAPE During COVID-19*

In the Spring of 2020, the U.S. Department of Education (ED) was in the process of deciding whether or not to provide waivers exempting K-12 schools from IDEA requirements which mandate that students with special needs receive an education comparable to that of their peers through Individualized Education Plans (IEPs).[90] IEPs, "legal contracts between schools and parents that set goals" for the student, "outline the special education services" that will be provided.[91]

---

87. Laura Meckler, Valerie Strauss & Joe Heim, *Millions of Public School Students Will Suffer from School Closures, Education Leaders Have Concluded*, WASH. POST (Apr. 13, 2020, 6:00 AM), https://www.washingtonpost.com/local/education/online-learning-summer-school-coronavirus/2020/04/11/de11c278-7adc-11ea-a130-df573469f094_story.html.

88. *Id.*

89. Corey Mitchell, *How Will Schools Pay for Compensatory Services for Special Ed. Students?*, EDUC. WK. (Nov. 10, 2020), https://www.edweek.org/teaching-learning/how-will-schools-pay-for-compensatory-services-for-special-ed-students/2020/11.

90. BETSY DEVOS, U.S. SEC'Y. OF EDUC., REP. TO CONGRESS: RECOMMENDED WAIVER AUTHORITY UNDER SECTION 3511(d)(4) OF DIVISION A OF THE CORONAVIRUS AID, RELIEF, AND ECONOMIC SECURITY ACT ("CARES ACT") 1–18 (2020), https://www2.ed.gov/documents/coronavirus/cares-waiver-report.pdf; *see* Carolyn Jones, *Federal Special Education Law Must Stay Intact During School Closures, DeVos Says*, EDSOURCE (Apr. 27, 2020), https://edsource.org/2020/federal-special-education-law-must-stay-intact-during-school-closures-devos-says/630298.

91. Angela Nelson, *How COVID-19 Has Affected Special Education Students*, TUFTSNOW (Sept. 29, 2020), https://now.tufts.edu/articles/how-covid-19-has-affected-special-education-students; Erica L. Green, *DeVos Weighs Waivers for Special Education. Parents Are Worried.*, N.Y. TIMES (Apr. 2, 2020), https://www.nytimes.com/2020/04/02/us/politics/special-education-coronavirus.html; Kara Arundel, *IEPs Altered to Reflect Distance Learning Service Changes, but at Cost to Schools*, K-12 DIVE (Oct. 6, 2020), https://www.k12dive.com/news/iep-changes-to-special-ed-services/586104.

They span a range of needs to include communication and language access services for blind, deaf, and deafblind students, services for students with multiple disabilities, and rules that govern how schools must respond to due process complaints.[92] Although school districts have transitioned to remote learning, many of them are figuring out how to manage the continuation of services for students with disabilities, which has led them to adapt IEPs to reflect distance learning service changes.[93]

These plans require a range of support—not easily transferred to the internet during a health crisis—to include behavioral assistance, timelines for assessments, hands-on services like physical and occupational therapy, and adherence to stringent rules for adjusting a student's IEP.[94] At the beginning of the pandemic, school districts argued that these services were impossible to deliver because of the shift to online learning and that if these requirements were not waived, districts would be vulnerable to lawsuits from parents.[95] Parents of students with disabilities feared that if granted, the waivers would jeopardize student disability rights and would allow schools to deny provision of special education services for however long distance learning would be in place.[96] The ED ultimately decided that it would not issue waivers of special education requirements and that provisions of the IDEA—all timelines, services, and regulations—were to remain in force.[97]

92. Green, *supra* note 91.

93. Arundel, *supra* note 91.

94. Green, *supra* note 91.

95. Carolyn Jones, *Despite Assurances of Flexibility, Educators Fear Liability in Online Instruction of Special Ed Students*, EDSOURCE (Mar. 24, 2020), https://edsource.org/2020/despite-assurances-of-flexibility-educators-fear-liability-in-online-instruction-of-special-ed-students/626898.

96. Katz, *supra* note 74. After the College Board transitioned to administering advanced placement tests digitally, five seeing-impaired students in Pennsylvania, along with the National Federation of the Blind, filed a civil rights complaint against the College Board for not making the tests accessible for students who use Braille. Press Release, Nat'l Fed'n of the Blind, Blind and Deafblind Students Set to Take Advanced Placement Tests File Civil Rights Complaint Against College Board (May 11, 2020), https://www.nfb.org/about-us/press-room/blind-and-deafblind-students-set-take-advanced-placement-tests-file-civil; *see also* Green, *supra* note 91.

97. Nelson, *supra* note 91.

The ED, school administrators, and special education experts acknowledge that implementing IEPs in the middle of a pandemic has been extremely difficult for schools, and that modifications to these plans often fell short of parents' expectations.[98] COVID-19 laid bare the unfortunate reality that some schools were already providing very little in terms of special education services but responses across school districts have varied.[99] There have been reports of some districts providing very little guidance to teachers on how to support disabled students, while other districts encouraged various methods of daily outreach, including phone or video chat, delivery of educational materials directly to the student's home, and welfare check-ins.[100] The core questions raised by parents under the extreme conditions imposed by the pandemic underscore the struggles students and their families have faced in securing the right to FAPE guaranteed by the IDEA.[101] The

---

98. *Id.* Dr. Melinda Macht-Greenberg, a clinical, developmental, and school psychologist and support specialist for children with disabilities, discussed the difficulties students with disabilities, their parents, and school districts faced because of COVID-19, saying that school modifications to IEPs "really led to this whole cascading nightmare where many school districts felt they didn't need to provide everything if they couldn't do it in person, and they didn't need to provide services for the same amount of time or in the same way." *Id.* Guidance from the ED stated that "the department recognizes that exceptional circumstances may affect how special education and related services and supports are provided to students with disabilities, and the department will offer flexibility." Press Release, U.S. Dep't. of Educ., Urging States to Continue Educating Students with Disabilities, Secretary DeVos Publishes New Resource on Accessibility and Distance Learning Options (Mar. 21, 2020), https://www.ed.gov/news/press-releases/urging-states-continue-educating-students-disabilities-secretary-devos-publishes-new-resource-accessibility-and-distance-learning-options.

99. Nelson, *supra* note 91.

100. Jones, *supra* note 95.

101. Johnson, *supra* note 74 ("Disabled children are legally entitled to free educational services that are tailored to their individual needs, from physical therapy to speech therapy to an in-class aide or assistant. But this one-to-one support simply cannot be provided at a distance. Home confinement, for example, limits certain kinds of professional contacts such as physical or occupational therapists. . . . Given the digital divide, San Antonio's economic segregation, the pandemic-precipitated shift to virtual learning, and federal regulators' findings that years of pressure from state officials to enroll fewer students in special education have created a culture of noncompliance with federal law, it's clear that San Antonio's low-income special needs students of color are not receiving their legally entitled educational services. What remains unclear is how school districts can provide these services during these uncertain times."). While many parents of students with disabilities appreciate the novelty and

remote environment makes providing services for a vast range of disabled people uniquely complicated, which is why parents have been primarily concerned with getting their children what they need, ensuring their children get what they are entitled to receive, and clarifying what they are allowed to request from school districts.[102]

The short-term relief that the ED provided to school districts may cause more harm than good, as it could open the door to districts reducing their services for disabled students in the long term by claiming they lack the resources.[103] The perception among special education advocates is that the ED's guidance includes too many caveats that would allow schools to offer as

complexity of the challenges schools have managed during the pandemic, they are also concerned about their children regressing. *See* Arundel, *supra* note 91; Green, *supra* note 91 (reporting that one cause for potential regression stemming from a transition to distance learning might be missing speech therapy outlined in an IEP). One of the provisions of special education law, compensatory education, requires school districts to provide services after-the-fact, and parents are worried that the post-pandemic backlog will be insurmountable and that students with disabilities will sustain further developmental harms. Jones, *supra* note 95.

102. Nelson, *supra* note 91.

103. Jones, *supra* note 95. In the late Spring of 2020, the ED declined to seek any waiver authority that would alter core tenets of the IDEA, namely waiving school district's requirements to provide students with disabilities access to free appropriate public education (FAPE) through distance education or other alternative strategies. Michelle Diament, *DeVos Finds 'No Reason' to Waive Key Provisions of IDEA*, DISABILITY SCOOP (Apr. 28, 2020), https://www.disabilityscoop.com/2020/04/28/devos-no-reason-waive-provisions-idea/28244.
At the time, disability rights advocates pointed out that while the ED's announcement provided clear guidance, it also allowed districts the flexibility to find protocols that would work for individual students. However, advocates warned that the announcement included enough caveats for schools not to make their best efforts. Jones, *supra* note 95. These early warnings have borne themselves out nearly eleven months later as the ED is now investigating multiple school districts due to concerns that they failed to provide appropriate services during the pandemic. Officials from the ED have said that they are examining "possible discrimination against students with disabilities by failing to provide them with a free, appropriate public education (FAPE) during the COVID-19 pandemic." Michelle Diament, *Ed Department Investigating Special Ed Failures During COVID-19*, DISABILITY SCOOP (Jan. 29, 2021), https://www.disabilityscoop.com/2021/01/29/ed-department-investigating-special-ed- failures-during-covid-19/29171. The ED's Office for Civil Rights is looking at the Indiana Department of Education, Seattle Public Schools, Los Angeles Unified School District, and Fairfax County Public Schools in Virginia, where parents of students with disabilities have brought multiple complaints about schools forcing kids into a "one-size-fits-all" remote learning program rather than programs tailored to meet student's individual needs. *Id.*

little support as possible.[104] However, it could also mean that districts doing absolutely nothing will have to begin offering services for students with disabilities.[105]

1. *Implementation of education technology and digital inequities*

Students with disabilities are continually overlooked and families often encounter a number of barriers to acquiring the support services schools are required by law to provide. In some school districts, failure to provide support services or inclusive remote learning programs with accessible technology available reflects a lack of resources.[106] However, multiple barriers beyond funding impact meaningful use of accessible information and communicative technology (ICT) resources for students with disabilities. These include the school curriculum, pedagogy, environmental setting, and teacher attitudes, training, and capacity.[107] For example, in May of 2020, Parents Together Action, a national parent-led advocacy organization, published results from a survey about the impact of the

---

104.   A CNBC report from late July 2020 described the financial pressures of remote learning for families of students with disabilities. *See* Sharon Epperson, *Special Needs Families Face Increased Financial Pressure in Covid-19 Crisis. This Can Help*, CNBC (July 31, 2020, 9:52 AM), https://www.cnbc.com/2020/07/31/special-needs-families-face-increased-financial-pressure-in-covid-19-crisis.html. Some students with disabilities require various educational and support services to include occupational and speech therapy to other types of one-on-one aid. *Id.* During the COVID-19 crisis these costs now fall on parents shoulders to pay out of pocket. *Id.* In discussing this challenging landscape for the families of students with special needs, advocates report that, "[n]ow some school districts are claiming they can't offer the services they're required to provide remotely." *Id.* Some schools require students with disabilities to attend class in person, disability rights advocates add that, "parents have significant reservations about sending children with certain disabilities and special needs back into the building." *Id.*

105.   *See* Jones, *supra* note 95.

106.   *See* Hallie Levine, *As School Returns, Kids with Special Needs Are Left Behind*, N.Y. TIMES, https://www.nytimes.com/2020/09/16/parenting/school-reopening-special-needs.html   (Sept. 18, 2020). The Executive Director of the National Association of State Directors of Special Education described the funding crisis school districts have been experiencing: "they're facing massive budget deficits due to implementing safety measures for the pandemic, and the unique needs of kids with more significant disabilities—special busing, complex technology—drives the cost up even more . . . ." *Id.* In certain situations "where districts do have the funds, they have gone in the other direction, allowing children with disabilities back to school five days a week, even while their typical peers do hybrid or remote learning." *Id.*

107.   Tyson, *supra* note 70.

coronavirus on children's education, which showed that 40% of students in special education had not received any support at all and that only 20% received all of the services they were entitled to receive.[108] Just over a third were not participating in any remote learning programs, as compared to 17% of their general education peers.[109] The survey also found that 40% of parents of disabled students reported being concerned about their children's mental health, as compared to only 23% of parents of other students.[110]

While many school districts have struggled to meet students' IEPs during the pandemic, many of the holes in the technological infrastructure (inclusive of pedagogy and teacher training) were present before the pandemic hit. Prior to the pandemic, researchers reported how logistically difficult and overwhelming it was for teachers to use traditional special education technology and to receive adequate training.[111] A number of studies detail gaps in special education technology access despite existing legislative mandates.[112] Students with disabilities routinely go without the required technology devices and services.[113] Reports on the state of the special

108. *See ParentsTogether Survey Reveals Remote Learning Is Failing Our Most Vulnerable Students*, PARENTSTOGETHER ACTION (May 27, 2020), https://parentstogetheraction.org/2020/05/27/parentstogether-survey-reveals-remote-learning-is-failing-our-most-vulnerable-students.

109. *Id.*

110. *Id.*; *see* Anya Kamenetz, *Survey Shows Big Remote Learning Gaps for Low-Income and Special Needs Children*, NPR (May 27, 2020, 12:03 PM), https://www.npr.org/sections/coronavirus-live-updates/2020/05/27/862705225/survey-shows-big-remote-learning-gaps-for-low-income-and-special-needs-children; Levine, *supra* note 106.

111. Tyson, *supra* note 70, at 158.

112. *Id.*

113. *What Should Ms. Adelaide Know About Assistive Technology and How It Is Used by Students with Disabilities?*, IRIS CTR. PEABODY COLL. VAND. UNIV. [hereinafter *What Should Ms. Adelaide Know?*], https://iris.peabody.vanderbilt.edu/module/at/cresource/q1/p01 (last visited Apr. 1, 2021). Vanderbilt University's public disability support resources, provided with support from the federal Office of Special Education programs, describes that teachers are hesitant to provide the necessary assistive technology tools due to "common misunderstandings and misapprehensions" about assistive technology. *Id.* There are a number of factors driving the lack of access to assistive technologies in the classroom; some of these barriers include insufficient assessment, planning processes, and financial support, difficulty obtaining and managing equipment, time constraints, a lack of appropriate teacher preparation and support,

education technology ecosystem also suggest that educators are often unaware of the IDEA amendments which mandate that in developing an IEP, team members must consider assistive technology.[114] Studies have also found instances where, given the widespread scarcity of resources in school districts, IEP and assistive technology teams have even shied away from suggesting assistive technology because of the cost implications.[115] Taken together, these findings paint a grim but clear picture of how the support services for students with disabilities often fall outside of the scope of what school districts are prepared to provide. Parents of students with disabilities often assume these responsibilities at cost.[116]

Educational technology (EdTech) tools[117] used to provide remote education are often not designed to be as accessible for learners with disabilities or complex needs, as they are targeted

---

and negative staff attitudes. Areej Ahmed, *Perceptions of Using Assistive Technology for Students with Disabilities in the Classroom*, 33 INT'L J. SPECIAL EDUC. 130, 133 (2018). Researchers evaluating barriers to assistive technology point out the consensus among educators that adaptive technologies and their corresponding support services may be a solution for students with disabilities who are struggling to achieve academic growth; however, they also acknowledge that "consideration for assistive technology process is not prevalent in schools." Dawn LaRae Jacobsen, Assistive Technology for Students with Disabilities: Resources and Challenges Encountered by Teachers (Dec. 2012) (Ph.D. dissertation, University of Northern Iowa) (UNI ScholarWorks). Some of the barriers include fiscal constraints, limited teacher knowledge, negative attitudes, a lack of acceptance, and perceptions about the efficacy of the equipment itself. *Id.*

114. According to the IDEA, assistive technology encompasses "any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of a child with a disability." Individuals with Disabilities Act, 20 U.S.C. § 1401(1)(A).

115. *See* Victoria Zascavage & Kathleen Winterman, *What Middle School Educators Should Know About Assistive Technology and Universal Design for Learning*, 40 MIDDLE SCH. J. 46, 48 (2009).

116. *See* Donna Anderson, Serge Dumont, Philip Jacobs & Leila Azzaria, *The Personal Costs of Caring for a Child with a Disability: A Review of the Literature*, 122 PUB. HEALTH REP. 3, 4 (2007).

117. EdTech refers to the use of technology for facilitating learning. It is an area of mass-market technology dedicated to the development and application of tools, including hardware, software, and processes aimed to promote education. *See What Is EdTech?*, EDTECHREV. (Feb. 15, 2013), https://edtechreview.in/dictionary/119-what-is-edtech. As such, EdTech tools, apps, and products enhance learning, pedagogy, and instruction by aiding the delivery of education. *Id.*

to a mass market.[118] These solutions often lack the basic accessibility features to make them usable for students with disabilities.[119] In the case of off-the-shelf EdTech products, the technology itself "restricts access to those who fit bodily norms," and it is no surprise that disabling experiences are the result.[120] The widespread use of technology and internet-based tools during the COVID-19 pandemic has produced awareness of existing digital inequalities and about the importance of digital accessibility as it relates to the meeting the specific needs of students with disabilities.[121]

2. *Barriers to digital inclusion in education*

Experts on digital accessibility and digital inclusion[122] advise that without proper implementation, the mere presence of

---

118. Marketplace Tech, *Online Learning Tools Aren't as Accessible for Students with Disabilities*, MARKETPLACE (Aug. 13, 2020), https://www.marketplace.org/shows/marketplace-tech/online-learning-tools-arent-as-accessible-for-students-with-disabilities.

119. *Id.*

120. Katz, *supra* note 74.

121. *See* Laura Robinson et al., *Digital Inequalities 2.0: Legacy Inequalities in the Information Age*, FIRST MONDAY, June 17, 2020, https://journals.uic.edu/ojs/index.php/fm/article/view/10842 /9561; *A COVID-19 Wake-Up Call: How ITU Supports Digital Accessibility*, MYITU (Mar. 12, 2020), https://www.itu.int/en/myitu/News/2020/12/02/15/07/How-ITU-supports-digital-accessibility-for-persons-with-disabilities; Tony Coelho, *Coronavirus Pandemic Showed Importance of Digital Access for People with Disabilities*, S.F. CHRON., https://www.sfchronicle.com/opinion/openforum /article/Coronavirus-pandemic-showed-importance-of-digital-15283847.php (May 21, 2020, 4:00 AM); Abrar Al-Heeti, *COVID-19 Exposes Hypocrisy over Lack of Disability Accommodations*, CNET (May 21, 2020, 12:18 PM), https://www.cnet.com/health/the-covid-19-crisis-highlights-how-far-accessibility-still-has-to-go.

122. "Digital inclusion is the ability of individuals and groups to access and use information and communication technologies." *See* Samantha Becker, Chris Coward, Mike Crandall, Rebecca Sears, Ron Carlee, Kira Hasbargen & Mary Alice Ball, *Building Digital Communities: A Framework for Action*, INST. OF MUSEUM & LIBR. SERVS. 1, 70 (2012), https://www.imls.gov/sites /default/files/publications/documents/buildingdigitalcommunitiesframework.pdf. Scholars discuss the importance of digital inclusion as an increasingly important social issue, highlighting that:

> The use of technology to communicate has become an essential and socially acceptable aspect of most people's lives and it is becoming increasingly difficult to distinguish between the "digital world" and the "real world." Hence, Digital Inclusion is an increasingly important social issue, reflecting imperatives, opportunities, and considerations about human rights, equity, issues of identity, language, social

EdTech—where schools have the resources to support technology access—offers little benefit to students with disabilities.[123] Assistive technologies provided without the support services necessary to use the devices appropriately is insufficient for student success.[124] In light of the pace of innovation and technological advancement, policymakers have recommended since the 1970s that, in addition to devices and equipment, instructional technology should also involve a systematic way of designing and delivering instruction, but this guidance has largely been ignored by practitioners.[125] Schools have failed to shift their thinking about students with disabilities and to understand that the flaws are in the curriculum and not the students.[126] Field researchers continue to report that "[s]tudents with disabilities, disregarded and powerless, have not been included in curriculum design, and they 'find barriers rather than supports for learning.'"[127] Considering the time and costs required to maintain teacher proficiency levels in the appropriate uses of innovative technologies (which have limited lifespans), it should come as no surprise that teachers do not receive adequate technical training for integrating digital learning into the classroom.[128] It is for this reason that training on technology integration, specifically as it relates to incorporating appropriate tools in current and future practices and ongoing professional

---

participation, community and civic engagement, and opportunity pertaining to the digital world.

Darren Chadwick & Caroline Wesson, *Digital Inclusion and Disability*, *in* APPLIED CYBERPSYCHOLOGY: PRACTICAL APPLICATIONS OF CYBERPSYCHOLOGICAL THEORY AND RESEARCH 1 (Alison Attrill & Chris Fullwood eds., 2016) (internal citations omitted).

123. Tyson, *supra* note 70, at 153 (citing Monica R. Brown, *Access Granted: Achieving Technological Equity in the 21st Century*, *in* HANDBOOK OF SPECIAL EDUCATION TECHNOLOGY RESEARCH AND PRACTICE 105 (Dave Edyburn, Kyle Higgins & Randall Boone eds., 2005)).

124. *See What Should Ms. Adelaide Know?*, *supra* note 113.

125. Tyson, *supra* note 70, at 154 (citing Chuck Hitchcock & Skip Stahl, *Assistive Technology, Universal Design, Universal Design for Learning: Improved Learning Opportunities*, 18 J. SPECIAL EDUC. TECH. 45, 46 (2003)).

126. *See id.* at 155 (quoting Hitchcock & Stahl, *supra* note 125, at 45).

127. *Id.*

128. *Id.* at 155–56.

development, must become a critical focus in addressing digital inequities experienced by students with disabilities.[129]

One of the barriers to better digital inclusion is a lack of understanding about how to best support students with limited exposure to online learning environments. Online learning can be more challenging for students with disabilities because it places greater demands on their executive functioning (EF) skills.[130] In a classroom setting where instruction is face-to-face, students receive some level of ongoing instructional support; they are able to access one another's strategies for succeeding— for example, hearing other students' questions adds depth and clarity to a discussion, can assist in awareness of deadlines, and provides examples of how to ask for assistance.[131] These features of face-to-face classroom instruction significantly impact students with disabilities' EF skills to help navigate the learning experience.[132] The scaffolds and supports typically present in a face-to-face classroom are not present in the online environment. Many disabled students find themselves at a greater disadvantage in virtual classrooms, where there are fewer instructional cues.[133] The difficulties students face navigating online learning environments were especially acute during the shift to virtual classrooms driven by the coronavirus pandemic.[134] Teachers can support students with disabilities impacting EF by tailoring the course design, while administrators can select learning management systems or other virtual learning tools designed with EF support embedded.[135] Without these considerations, students' learning outcomes are substantially disrupted.[136]

---

129. *Id.* at 156.

130. *Executive Functioning in Online Environments: Universal Design for Learning in Higher Education*, CAST: UDL ON CAMPUS, http://udloncampus.cast.org/page/teach_executive (last visited Apr. 1, 2021).

131. *Id.*

132. *Id.*

133. *Id.*

134. *See* Basham, Blackorby & Marino, *supra* note 85, at 71.

135. *Executive Functioning in Online Environments*, *supra* note 130.

136. *See* Basham, Blackorby & Marino, *supra* note 85, at 75–76.

III. UNIVERSAL DESIGN FOR LEARNING AND STRATEGIES FOR ENABLING DIGITAL ACCESSIBILITY FOR EDUCATION

The IDEA incorporates the Assistive Technology Act of 1998 definition of "universal design," which is "a concept or philosophy for designing and delivering products and services that are usable by people with the widest possible range of functional capabilities, which include products and services that are directly accessible (without requiring assistive technologies) and products and services that are interoperable with assistive technologies."[137] Universal design for learning (UDL) refers to principles and features that enable students with disabilities to have access to learning and education technologies.[138] Educators and educational institutions have a legal responsibility to provide accessible platforms and materials.[139] Web-based information and other digital resources should provide students with disabilities the most convenient access, without obstacles. UDL builds on the principles of universal design by integrating accessibility standards into the overall design, as opposed to being incorporated as an after-thought, i.e., after digital materials or products are complete or

---

137. Assistive Technology Act of 1998, 29 U.S.C. § 3002(a)(19); Individuals with Disabilities Education Act, 20 U.S.C. § 1401(35). The concept of universal design originated in the field of architecture "as a means to promote the design of products and environments that would appeal to all people, yet meet the requirements of the Americans with Disabilities Act (ADA) to provide access for individuals with disabilities." *History of UDL*, OCALI, https://www.ocali.org/project/learn_about_udl/page/udl_history (last visited Apr. 1, 2021). In 1997, a working group of environmental design researchers developed seven principles of universal design: (1) "Equitable Use," (2) "Flexibility in Use," (3) "Simple and Intuitive Use," (4) "Perceptible Information," (5) "Tolerance for Error," (6) "Low Physical Effort," and (7) "Size and Space for Approach and Use." Bettye Rose Connell, Mike Jones, Ron Mace, Jim Mueller, Abir Mullick, Elaine Ostroff, Jon Sanford, Ed Steinfeld, Molly Story & Gregg Vanderheiden, *The Principles of Universal Design*, *in* THE UNIVERSAL DESIGN FILE: DESIGNING FOR PEOPLE OF ALL AGES & ABILITIES 31, 34–35 (1998).

138. Alise Crossland, Tracy Gray & Jillian Reynolds, *ESSA and Digital Learning: Closing the Digital Accessibility Gap*, AM. INSTS. FOR RSCH. 1, 5 (2018), https://www.air.org/sites/default/files/downloads/report/ESSA-Digital-Lrng-508.pdf.

139. *Accessibility and Universal Design for Learning: First What Do We Mean by "Accessibility"?*, BOISE ST. UNIV., https://www.boisestate.edu/ctl-idea/accessibility (last visited Apr. 15, 2021). Educational institutions describe their legal obligations for accessibility as including reasonable accommodations that afford equal access to course content, learning activities, assessment, and other aspects of the learning experience for students with disabilities. *Id.*

as a modification.[140] The ESSA, which governs K-12 public education policy, references UDL in its passages.[141] It mentions local educational agencies' use of technology "consistent with the principles of universal design for learning, to support the learning needs of all students, including children with disabilities and English learners."[142] UDL and digital accessibility aim to improve learning access and reduce barriers for disabled students, and both are critical to ensuring digital equity in education.[143] There are important distinctions between UDL and digital accessibility, however, which have been known to create conflicts specifically in cases where a lack of resources compromises digital accessibility in favor of the appearance of UDL.[144] For example, some schools may prohibit students from audio or video recording lectures (a common practice in UDL) because the recordings may not include accurate captions (a necessary accessibility practice).[145] This seeming conflict underscores a concern expressed by advocates of UDL who also understand the limitations of school budgets and the flaws of the UDL approach with respect to meeting the specialized needs of students with disabilities, especially those in impoverished rural and urban schools.[146] An access-centered approach to education would recognize the equal importance of enabling *all* students (not just those with specified disabilities or diagnoses, such as being hard of hearing, or having ADD or auditory processing disabilities) to have access to audio or

---

140. *See id.*

141. Every Student Succeeds Act of 2015, Pub. L. No. 114-95, § 1111, 129 Stat. 1802, 1828–29; Crossland, Gray & Reynolds, *supra* note 138, at 1.

142. Every Student Succeeds Act of 2015, § 4104(b)(3)(C)(i)(II).

143. Crossland, Gray & Reynolds, *supra* note 138, at 4.

144. Judy Ableser & Christina Moore, *Universal Design for Learning and Digital Accessibility: Compatible Partners or a Conflicted Marriage?*, EDUCAUSE (Sept. 10, 2018), https://er.educause.edu/articles/2018/9/universal-design-for-learning-and-digital-accessibility-compatible-partners-or-a-conflicted-marriage.

145. *Id.*

146. Tyson, *supra* note 70, at 157.

video recorded lectures, *and* ensuring that all such recordings have captions or a transcript as a default.[147]

In practical terms, digital accessibility practice allows students with sensory, physical, and cognitive disabilities to access digital documents, websites, and applications.[148] People with disabilities who rely on assistive technology and other alternative methods of interaction rely on accessibility features and practices to interface with digital environments.[149] Blind and low-vision people will be able to interpret information on digital screens where zoom functions and high contrast colors are in use.[150] Deaf people will obtain value from captions and transcripts for video content, and people with motor disabilities will rely on speech-to-text software or keyboard-based interaction.[151] People who have speech or language disabilities will get value from non-vocal methods of interaction online.[152] People with certain physical disabilities may use adapted input and interface devices like sip and puff input or eye-tracking input, rather than a standard mouse and keyboard, to access a computer.[153] Thoughtfully organized and structured page or interface layouts with clear guidance make screens accessible for people with cognitive disabilities.[154]

Nonetheless, access-centered teaching and learning require more than merely enabling access within specific technologies, services, and devices. It requires addressing systemic and structural barriers to equal access to technology and education

---

147. Ableser & Moore, *supra* note 144.

148. Crossland, Gray & Reynolds, *supra* note 138, at 4.

149. *Id.* at 6.

150. *See* Ableser & Moore, *supra* note 144.

151. *See id.*; *Motor Disabilities: Assistive Technologies*, WEBAIM, https://webaim.org/articles /motor/assistive (Oct. 12, 2012).

152. *Motor Disabilities: Assistive Technologies*, *supra* note 151.

153. *Id.* Sip and puff switches "interpret the user's breath actions as on/off signals, and can be used for a variety of purposes, from controlling a wheelchair to navigating a computer." *Id.* Eye-tracking devices allow people to navigate internet websites with only their eye movements. *Id.*

154. *See Clear Layout and Design*, W3C WEB ACCESSIBILITY INITIATIVE, https://www.w3.org /WAI/perspective-videos/layout/ (Jan. 23, 2019).

as a whole in the first place, including the pervasive beliefs that disabled people do not deserve to learn or are incapable of learning.[155] Access-centered teaching and learning require attention to and transformation of ableist policies and pedagogical practices that punish disabled students for inability to comply, even and especially in the name of promoting access or educational progress.[156] Aimi Hamraie, for instance, offered important starting points on how to design accessible courses during the pandemic that recognize both the need for basic accessibility and the need for *access* as an iterative, adaptive, fluid, and relational practice that takes into account the ways that all people—disabled and nondisabled alike—move, think, learn, sense, communicate, and express differently and at different paces.[157] What does it mean for teachers of young children or postgraduate students to account for cognitive processes overwhelmed by chronic fatigue or pain, complex and compounded trauma, or the exhaustion of having to navigate an ableist society day after day? Students may be able to *access* a re-designed video conferencing app or course management system, but how do their teachers or professors expect or require them to demonstrate aptitude and achievement? The system can become superficially accessible or universally designed, while the pedagogy remains ableist, rooted in assumptions about what a successful and intelligent student is able to do, and how quickly and in what manner they are able to do it.[158]

---

155. *See supra* Part I; Paul Gorski & Christine Clark, *Multicultural Education and the Digital Divide: Focus on Disability*, 4 MULTICULTURAL PERSPS. 28, 30–33 (2002).

156. *See* Gorski & Clark, *supra* note 155.

157. Aimi Hamraie, *Accessible Teaching in the Time of COVID-19*, CRITICAL DESIGN LAB (Mar. 10, 2020), https://www.mapping-access.com/blog-1/2020/3/10/accessible-teaching-in-the-time-of-covid-19.

158. *See* Gorski & Clark, *supra* note 155.

CONCLUSION: INACCESSIBILITY AND MARGINALIZATION AT COST
TO SOCIETY

Technology in some form has long been part of educational services provisions and, at least in the past twenty years, pedagogical design integrates digital technologies to bolster educational quality and transmit important digital competencies.[159] However, institutionalized ableism shows up in pedagogical design in a number of ways, e.g., in the lack of access to affordable adaptive equipment, and the absence of training and educational opportunity that would adequately support students with disabilities.[160] It is also reflected in the attitudes of the people in educational institutions and wrongly-held assumptions that students with disabilities do not need or could not benefit from access to computers or the internet, and a general lack of attention (whether intentional or inadvertent) to disabled people's specific information technology needs.[161] This ableism is also apparent in the widespread lack of compliance with website accessibility standards for physical, sensory, language, and cognitive access.[162]

As of 2020, 98% of all web content fully failed to comply with the minimum guideline requirements of the Web Content Accessibility Guidelines (WCAG).[163] This level of neglect is less

---

159. *See* Ableser & Moore, *supra* note 144 (explaining how complying with Section 508 of Rehabilitation Act required educational institutions to "completely overhaul their websites and instructional content"); Crossland, Gray & Reynolds, *supra* note 138, at 6.

160. *See* Gorski & Clark, *supra* note 155, at 30–31 (2002).

161. *Id*. at 31.

162. *See* Brown, *supra* note 83; ACCESSIBE, WEB ACCESSIBILITY ANNUAL REPORT 2020, at 3 (2020).

163. ACCESSIBE, *supra* note 162. The Web Content Accessibility Guidelines are published by the Web Accessibility Initiative of the World Wide Web Consortium. *Web Content Accessibility Guidelines (WCAG) Overview*, W3C WEB ACCESSIBILITY INITIATIVE (Oct. 17, 2020), https://www.w3.org/WAI/standards-guidelines/wcag. These guidelines apply to a variety of web technologies including software and digital documents and they are designed to also apply to new advances in technology. Crossland, Gray & Reynolds, *supra* note 138, at 3. The four principles of WCAG create a single standard for web content accessibility. They include: (1) Perceivability—for example, providing text alternatives to non-text content, creating content that is versatile in that it can be presented in different ways including assistive technology with high fidelity; (2) Operability—assuring that all functions are available from a keyboard, and

of a "gap" and more of an inaccessibility canyon, showing a consistent disregard for the needs of disabled people, even well before the pandemic.[164] As we have discussed at length, the more than 124,000 closed K-12 schools—not to mention colleges and universities—scrambled to enable online access for students who suddenly found themselves trying to learn at home, some with more success and resources than others.[165] The digital transformation of American society happened almost overnight, alienating and leaving behind many students with disabilities, and who now have an accelerated need for accessible online classes and services.[166] There is a direct relationship between the marginalization that students with disabilities experience in the educational system and the marginalization of disabled people throughout all other aspects of society.[167] Ableist structures, systems, and processes deny and deprive students with disabilities the ability to acquire the skills and resources necessary to learn and participate in society. The costs are enormous, including disparities in employment, technological skills, poverty, and engagement in society more broadly.[168] Disabled people are at least twice as likely to become impoverished than people without disabilities,

---

ensuring that designed content does not cause seizures; (3) Understandability—text should be readable and understandable, and should appear and operate in predictable ways; and (4) Robustness—maximizing compatibility with current and future user tools. *Id.*

164. According to a 2019 report by 3Play Media, a company that provides captioning, transcription, and audio description services, lawsuits over web accessibility are filed at the rate of once every working hour. *See* Katz, *supra* note 74. In the first quarter of 2020, more than 500 digital accessibility lawsuits were filed. *See* Miron, *supra* note 86.

165. Holly Peele & Maya Riser-Kositsky, *Map: Coronavirus and School Closures in 2019-2020*, EDUC.WK., https://www.edweek.org/leadership/map-coronavirus-and-school-closures-in-2019-2020/2020/03 (Sept. 16, 2020).

166. *See* Anderson & Perrin, *supra* note 62.

167. Amy Milsom, *Creating Positive School Experiences for Students with Disabilities*, 10 SAGE 66, 68 (2006) (discussing how people with disabilities can internalize negative attitudes from teachers, which can affect the behavior, relationships, education, employment and health of people with disabilities in the future).

168. *See Highlighting Disability/Poverty Connection, NCD Urges Congress to Alter Federal Policies that Disadvantage People with Disabilities*, NAT'L COUNCIL ON DISABILITY (Oct. 26, 2017), https://ncd.gov/newsroom/2017/disability-poverty-connection-2017-progress-report-release.

which undoubtedly contributes to the relatively fewer number of disabled people with internet access today.[169]

Yet when many disabled people have also long found connection, community, and culture online—especially many communities of multiply marginalized disabled people—internet access becomes even more important for our future and as a tool to broaden and increase access in all parts of our lives.[170] Disabled people who have benefited from online learning and work before the pandemic already knew that greater flexibility and adaptations enabled by technology can offer both more access to work and pleasure, and can widen and deepen disparities impacting disabled people deprived of access to those same technologies as they become ubiquitous.[171] Students of all ages have experienced a unique collective trauma because of the COVID-19 pandemic—the challenge before technology and disability advocates now is how we might maximize use of and access to technologies that enable access, while honoring the principles of disability justice and access-centered learning in a time of mass unwellness where things cannot continue as usual.[172]

---

169. *Id.*

170. *See, e.g.*, s.e. smith, *Why Aren't More Disabled People Online?*, ROOTED RTS. (July 5, 2017), https://rootedinrights.org/why-arent-more-disabled-people-online/; Jim Sinclair, *Cultural Commentary: Being Autistic Together*, 30 DISABILITY STUD. Q. (2010), https://dsq-sds.org/article/view/1075/1248; s.e. smith, *How Disabled People Find a Lifeline in the Online World*, DAZED DIG. (Jan. 5, 2018), https://www.dazeddigital.com/science-tech/article/38504/1/how-disabled-people-find-a-lifeline-in-the-online-world.

171. Imani Barbarin, Opinion, *Coronavirus Made Accessibility a Priority. It Should Stay that Way When the Pandemic Ends.*, PHILA. INQUIRER (Mar. 31, 2020), https://www.inquirer.com/health/coronavirus/coronavirus-pennsylvania-disability-accessibility-accommodations-20200331.html.

172. Mimi Khúc, Lecture at Georgetown University, Anguish and Ableism in the Academy: The Professor Is Ill (Mar. 30, 2019) ("We live and work within a machine that makes us unwell while not allowing us to be unwell, and punishes us for being unwell and asks us to punish others for being unwell so that we can prove we are well.").