The Digital Divide:

In Support of Broadband as a Public Utility for Texas

Dana Carmouche

PhD Global Leadership & Change
Dr. Kfir Mordechay
November 30, 2020

Executive Summary

Connectivity in the post-pandemic age has underscored societal inequities at an alarming rate. Not only does the digital divide threaten America's economy, but the dearth of access to basic broadband in economically depressed areas now constitutes one of the greatest threats to public education since its inception. Meanwhile, to support an ever-evolving economy, the state of Texas requires significant economic expansion. Projected to add an estimated eight million new jobs by the year 2036, according to nonprofit Texas 2036, the state will need over 70% of these new positions filled by candidates with at least some college. In the digital age, this will absolutely require 100% connectivity across a wide demographic of stakeholders, from urban teens in disadvantaged communities in Houston and Dallas to rural dwellers on the sweeping plains surrounding El Paso and the Mexican border.

Coloniality is defined as a long-standing pattern of power that ensued as a direct result of colonialism. Coloniality determines, among other things, knowledge production, culture, labor, and intersubjective relations (Ayala & Ramirez, 2019). In public high schools, this has led to an information gap as relates to how to confidently aspire to and afford access to higher education. In turn, this lack of knowledge dissemination has played a degenerative role in educational equity, as seen in the opportunity gap experienced by non-White groups in the Texas public system. The proposed policy action is to deprivatize broadband access, making it a public utility instead. As a result of COVID-19, broadband internet access has moved from being a nice-to-have to a must-have. Without internet access as well as adequate device access, millions of young people will not be able to access the instructional resources and classes needed to complete their education.

Introduction

The Problem. As more and more school districts are coming to depend on learning technologies to support student outcomes, many lack market power. This holds particularly true in rural and low-income areas served by only one broadband provider. The FCC has implemented regulatory control in the past to protect those who may be especially vulnerable to reduced service, blocked access, or price gouging. The authors of this paper propose that protection from broadband providers or content companies charging unfair additional costs is necessary to ensure delivery of digital learning materials. Central to addressing this concern is re-envisioning the FCC's universal service fund as the governance for broadband as it currently exists. Pre-pandemic, this offered viable support, but as 2020 has proven, those allowances are insufficient.

The Role of E-rate. The FCC funds E-rate and other library supportive programs such as Lifeline, and reports to Congress. Internet providers were prevented from turning off services to lower-income neighborhoods. E-Rate was authorized as part of the Telecommunications Act of 1996. Originally, its creators focused upon connecting all schools and libraries to the Internet with sufficient bandwidth to meet the needs of students and library visitors. To achieve this, E-Rate provided schools and public libraries with two forms of access. First, Broadband/Internet access (category 1) offered service discounts up to 90%, with the most disadvantaged communities receiving the most help for the least cost. Secondly, Wi-Fi/Internal Connections (category 2) offered five-year distributions by which schools could receive $150 per student and libraries get

$2.40 per square foot of space. This offered a viable start, but that initial support is insufficient to the needs of post-2020 Texas.

Thought Leadership. "The egalitarian quality of an open and accessible internet furthers the fundamental goals of civic engagement and free speech," asserts nonprofit leader Willmary Escoto (2017). In the wake of the Black Lives Matter movement and social uprisings across the nation in 2020, the question must be asked whether America can afford not to prioritize school access. In deferring policy to promote ongoing privatization via corporations for such a core necessity, the actual infrastructure underpinning US society has already begun to unravel. Paralleling concerns about charter schools and other recent disruptors outside of Texas, the entire American public education structure is on life support as teachers flee, students struggle, and leadership within the system falls under sharp criticism for its inability to deliver fully prepared citizens from all socioeconomic backgrounds. This failure extends not only to and through high school, but markedly also falls short of producing a workforce-ready to contribute to the greater economy as a whole. The odds of that happening in many districts across Texas without intervention is a non-starter.

Root Cause. COVID19 has opened a proverbial Pandora's box within the educational system. To grasp the root cause--a lack of distributive equity in the digital era--this analysis harkens to John Rawls' Theory of Justice (1971), which, unlike the more utilitarian approach of other philosophers underscored the imperative of distributive justice, which Rawls defined as the socially just distribution of benefits across a society. Rawls' perspective, loosely conceived as a social contract theory, inquiries into the inherent responsibilities of any society to provide for all its members. In order to achieve digital distributive equity, the educational, economic, and social processes connected to repairing the breach caused by the digital divide must be directly connected with effective policy initiatives. Without such deliberate moves to secure greater parity, the likelihood of educational equity cannot be achieved.

Scope and Magnitude of the Problem Today. While some argue that Broadband for all is not feasible, a brief comparison to electricity provides historical context. The availability of electricity in rural areas of the US in the early 1900s was not as rapid as some might suppose: it took twenty-five years for 70 percent of Americans to have electricity available to them (Kang, 2016). Compare that to 15 years to make that same jump for broadband, and it seems that broadband is out in the lead; however, with educational access on the line it is not distributed in an adequately equitable manner. At-risk students are categorized as "special populations" by Texas Education Agency (TEA)—the governing body for education in the state of Texas (2020). For the purposes of this article, special populations will be referred to as marginalized students, and defined by the following characteristics: low socioeconomic status, ethnic diversity, and non-English language proficiency.

According to the US Census (see figure 1), Black and Hispanic populations report the lowest levels of Broadband internet access. Relating this to impacts on educational opportunities, intersectionality purports that such populations must be approached bearing in mind their lived experience, unveiling the lack of power and privilege that can compromise identity (Stylus, 2015). Furthermore, as seen in Figures 2, 3, and 4, even when disadvantaged students have access, it is often on a single mobile device with disproportionate Internet availability according to race. With an intentional goal of social justice and social change, digital discrimination must be addressed at an institutional level, and paid for through federal and state funding.

Educational advocates, career educators, and industry pundits have echoed the need for a solution to the digital divide that is currently impacting students across America, with marginalized populations more

adversely impacted. In the state of Texas, primary importance has been placed upon the ability of school districts to ensure that every student is college, career and military ready (CCMR) upon graduation. Pre-COVID-19, this already required extensive partnerships with industries and post-secondary institutions to create a pipeline for the future.

Literature Review

The goal in conducting this literary analysis is not to simply participate in a rhetorical practice, but rather provide insight through the lens of intersectionality, exploring barriers that impede equitable student success. This includes access and opportunities, as they directly lead to outcomes. Academic literature speaks to a widening middle skills gap, which threatens to erode the global competitiveness of American companies, and increasing research now promises to assess both the needed policy adjustments and implementation tactics for securing careful distribution of the coveted support Broadband as a public utility can bring. These endeavors overlap public, private, and nonprofit sectors. Academics seeking to provide policy support must carefully assess all players impacting the current and potential trajectory of the matter.

Mid-pandemic, districts across Texas have labored to equip thousands of students with computers and Broadband Internet access, while eagerly collaborating with local and state officials to secure highly sought-after devices. Carpenter and Webb (2020) highlighted a Census Report that reflected in the Houston area's ten largest high schools, about nine percent of households--nearly 142,650--did not have a computer, and nearly twice that number, about 267,250 households, lacked Broadband Internet access. Stories of students huddled in fast food restaurant parking lots to use free Wi-Fi became commonplace, and this coupled with 48,637 Houston ISD students either not contactable or having lost engagement during the spring semester demonstrated a crisis for nearly one in every four students in the district (Oberg & Rafique, 2020). Bearing in mind that many lower income families have multiple school-aged children, even with a free device it is little surprise that parents have been unable to get their high schoolers connected. Add to this the imperative for many teens to work to help put food on the table for their families, and the stakes for Texan families become higher than ever.

Thankfully, the diminishing costs of computers and Internet access have assisted in shrinking the digital divide, but glaring inequalities still loom. A survey conducted by Auxier and Anderson (2020) at the Pew Research Center (see Figure 2) revealed that one-in-four low socioeconomic students do not have access to a computer at home. School closures brought to light the reality that many students do not have internet access at home--particularly marginalized students. The Pew Research Survey also showed one-quarter of Black teens and those with an annual family income below $30,000 often or sometimes cannot do homework assignments due to lack of reliable access to a computer or internet connectivity, compared with 13% of White teens and 17% of Hispanic teens (Auxier & Anderson, 2020).

A Matter of Framing. Although Brown vs. Board of Education of Topeka, Kansas was the landmark ruling which became the antecedent for educational legislation in America, the digital divide exacerbates existing inequities. President Lyndon B. Johnson signed into law the Elementary and Secondary Education Act (ESEA) of 1965, giving way to No Child Left Behind Act (NCLB) of 2001, and the current Every Student Succeeds Act (ESSA), which was signed by President Obama in 2015. These legislative mandates were intended to provide

equal educational opportunities to combat the inequalities that historically impact outcomes and usually plague marginalized communities in America. According to Zion and Blanchett (2011) the reason that large-scale improvements in outcomes for all students has yet to be realized is because the problem hasn't been framed appropriately. Add a global pandemic, and those earlier realities pale by comparison. COVID-19 has accelerated Texas' educational access problem to a critical scale. Several theoretical frameworks are offered here as lenses to assess the digital dilemma with sufficient nuance.

***Critical Race Theory*.** One mode by which Texas' educational gaps can be examined is Critical Race Theory (CRT). It has been 25 years since Ladson-Billings and Tate (1995) introduced CRT to the educational world, on the basis that race was under-theorized at the time. This theory states that in a world where marginalized students are sometimes relegated to a separate and unequal position, the collaborative efforts of policymakers and education stakeholders can present an opportunity to reform systems. CRT's judicious critique of despotic practices and policies nonetheless presents an opportunity to build new liberating systems for racial equity and justice. Since the Texas public education system hasn't been substantively changed in more than 50 years, 2020 ushers in a time for profound and swiftly moving evolution.

Racial inequality in education with regard to access, opportunity, and outcomes has drawn specific attention by both unaffiliated researchers and the federal government over the past several decades. Gorski (2009) posited that the terms digital divide and technology gap reflect the conditions of inequity and/or limitations to digital equity. Scholarship around critical multicultural education has become more and more necessary over time in order to reframe discourse on not only digital access (the how) but also on what content to make available in instructional technology (the what).

Several types of inequitable education problems exacerbate the divide. A study by the U.S. Department of Education (NCES, 2017) confirmed that students from lower-income homes, rural homes, ethnically diverse homes, and homes with parents with lower levels of educational attainment are less likely to have Broadband internet access. CRT demands keeping the race/ethnicity underpinnings of aspiring toward increased digital access front and center in framing any effective policy change.

Intersectionality. Many pundits within educational research have expressed a need to expand the analysis of CRT further. For them, an intersectional theory and framework are needed to address issues of inequality with regard to not only race, but also gender, class, and ability. Critical Legal scholar and UCLA law professor, Kimberle Crenshaw (1989) is credited with first identifying and particularizing the best-known iteration of intersectionality. The Oxford English Dictionary (2015) defines intersectionality as "the interconnected nature of social categorizations such as race, class, and gender, regarded as creating overlapping and interdependent systems of discrimination or disadvantage" (n.p.). It has been more than 30 years since the term was coined, and diverse scholarship in this area has addressed underlying factors supporting the policy recommendation in this article.

Within the past decade, a growing number of education scholars have drawn on intersectionality to analyze social justice issues in education such as individual experiences and counter-narratives of oppression (Connor, 2006 as cited in Zwier & Grant, 2014). Hence, the digital divide can arguably be considered a social justice issue of the 21st century. Zwier & Grant (2014) offered a working definition of intersectionality theory as one that, "seek[s] to explain, critique, and transform relationships of difference within and across one or more

levels or social spheres, taking into account the works of power through fluid, context-specific, constructed identity categories" (10). Specific marginalized populations exist in both urban and rural areas.

Urban Areas. The implementation of initiatives that acknowledge intersectionality in education can generate benefits, leveraging practical and theoretical frameworks around race, gender, class, and other identity blocs in inner-city education. Urban research contends that educational concerns and/or problems should be theorized and addressed through more than one identity bloc. When educational policymakers and practitioners do not account for urban students' interconnected identity markers, they risk replicating patterns of privilege, propagating stereotypes, and failing to support holistic student learning across desirable outcomes. An intersectional analysis by West-Olatunji et al, (2010) highlighted parents' coping mechanisms and resilience alongside risk factors of African American students' achievement. Levine-Rasky (2009) purported that an "essential aspect of attending to complexity is a researcher's ability to use intersectionality theories flexibly because inequitable access to resources might be exacerbated by a set of intersections in one context and mitigated by it in another" (p. 341).

Rural Areas. Despite the widespread assumption that inner-city youth are the primary losers in the race to solve the digital divide, the reality is that hundreds of thousands of students across the state of Texas live far from urban centers, yet suffer tremendously by their lack of access to Broadband and digital devices. According to Crenshaw (1991) intersectionality is useful for analyzing any type of marginalization. More recently, educational actors have integrated intersectionality theory, grounded in critical race theory, into their analyses of marginalized and excluded populations. Villenas (2001) approached intersectionality through a critical counter-narrative, giving voice to Latina women that envision a *good education* for their children and empowering them to speak back to benevolent and xenophobic racist discourse about themselves and their families. Gillborn (2010) uses intersectionality to trace how specific discourses operate to privilege elite Whites, while suppressing working class Whites. In Texas, 39.7% of students are Latino, 12.9% are Black, and 13.6% live at or below the poverty level according to census.gov. Rural dwellers face unique challenges in attaining Internet access and need to be addressed as a distinct population.

A 1995 survey conducted by the National Telecommunications and Information Administration (NTIA), a division of the US Dept. of Commerce, revealed that economically disenfranchised students are disproportionately found in rural areas and central cities, with marginalized communities such as Native Americans, Latinos, and African Americans being more adversely impacted than their counterparts (Modarres, 2011). Fast-forward 25 years, and these digital inequalities are widening. In one book review of *Falling through the Net*, education journalist Owen Adams (2000) posited that the digital divide is one of the leading economic and civil rights issues in America, stating that the NTIA report called for government action to ensure that all Americans are able to enjoy the competitive advantages gained by Internet participation.

The story of inequality surrounding technology is not new, but it is more critical than ever during times of pandemic, when face-to-face connections are limited and virtual interaction is all that remains. Digital inequalities significantly impact more than education, also affecting telemedicine, agriculture, and e-commerce to name a few. For this reason, the Trump administration announced a new program several years ago aimed at building rural Broadband infrastructure, addressing the inadequacies that prevent certain communities from having available or affordable Internet (US, 2017). Despite the announcement, progress has proven insufficient.

While the digital divide appears to be closing for some demographic communities, the gap for rural and urban populations has remained remarkably consistent for at least as long as NTIA has been gathering data on Internet use (Carlson & Goss, 2016). COVID-19 has relegated the state of Texas to function online in numerous critical areas: for education as well as health care, commerce, and other societal needs. Reliance on Broadband to keep Texans connected while fighting the spread of the Coronavirus harms approximately one third of households, which are not able to communicate or function adequately.

According to *Texas Comptroller* editor Lauren Mulverhill (2019), more than 2 million Texas households do not have high-speed internet or cannot afford to access the Internet. The world-wide shutdown brought the glaring technology disparities to the forefront and forced all individuals into a virtual reality for their personal and professional lives. The current infrastructure was not designed for this unprecedented online demand of streaming videos, virtual messaging, conducting online business, or accessing learning management systems. Coupling this with using a plethora of cloud-based applications for daily needs makes it all very complex for a large percentage of Texan families to navigate, both financially and practically.

Policy Solutions

Considering the current pandemic and the exacerbated digital divide, Texas must rethink current telecommunication legislation, to meet the needs of the people. Could municipal Broadband solve the problem of digital inequalities? Who should be responsible to fund this digital infrastructure upgrade?

Municipality Broadband. Amid the current crisis, the need for equitable internet access is vital. According to Philip et al. (2017), a more sophisticated understanding of the digital divide encompasses a move towards exploring who is able (or unable) to make use of the many potential benefits the Internet offers. Government policy has been primarily focused on the cost and challenges relative to connecting densely populated communities, while leaders in cities, towns and everything in between across Texas are tasked with swiftly closing the gaps to abate the digital divide's effects on education, health care and their economies. Texas is one of many states that forbids municipalities and municipal electric utilities from offering telecommunication services to the public, both directly and indirectly via a private telecommunications provider (54 Texas Utilities Code, 2005). To deal with this, and many other facets of the dilemma, some cities have decided to establish municipally owned and operated networks to provide access to everyone, regardless of socioeconomic status. Broadband evangelists believe that the internet as a public utility could help individuals secure employment, assist students with engaging in virtual schoolwork more effectively, and connect people to new telehealth technology more efficiently. This must be funded with a combination of federal and state support.

Sample City of Concern. San Antonio, a city nestled near the southern United States border in proximity to Mexico, holds a prominent relationship in trade and tourism shared between the two countries. In 2018, San Antonio set digital inclusion as one of its major goals (Flahive, 2018 as cited by Reddick et al., 2020); however, individuals found on the wrong side of the digital divide were usually impoverished, less educated, and non-White. The National Digital Inclusion Alliance (NDIA) identified San Antonio as being among those US cities with the highest percentages of households lacking broadband access at home (Royall 2018, as cited by Reddick et al., 2020). The likelihood of Internet service providers immediately deploying Broadband to minority and low-income communities is unlikely if costs to deploy are high. In order to mitigate the digital

divide, policy must use an approach that entails maximizing current resources and reducing costs to the end-user. Essentially, without proper policy to mitigate, it will continue to be too expensive for Internet service providers (ISPs) to serve these marginalized communities (Reddick et al., 2020).

San Antonio, with 23.4% of households lacking a Broadband connection, ranks low when compared to similar cities, such as Austin with 14.2% (Reddick et al., 2020). Those lacking Internet access are potentially excluded from opportunities and resources due to intersectional oppression associated with race, socioeconomic status, and/or geographical location. The harmful effects of discriminatory redlining policies offer one example of how matters have become so dire. Redlining adversely impacts low income and racially separated communities by drawing arbitrary boundaries that ringfence economic advantages for some while denying it from others.

In pockets of southeast San Antonio, populated mainly with Blacks and Hispanics in deep poverty, the reduced access to equitable education can be seen in diminished opportunities for cultivation of social networks and employment (Reddick et al., 2020). By comparison, Austin Assistant City Attorney Gabriel Garcia has lauded the Greater Austin Area Telecommunication Network (GAATN), which has helped Austin usher the city into significant telecommunication developments. He argues that San Antonio could capitalize on an extensive network of fiber optic cable running throughout the city, but that potential is mostly "dark" or unused (Sitz, 2014). San Antonio's municipal Broadband expansion has been made possible from the dark fiber that was nascent for two decades.

Sample Exemplar City. In Texas, where free enterprise is a prized tenet, the government of Mont Belvieu stepped in to meet these challenges where larger corporations would not (Repko, 2019). The city of Mont Belvieu is located approximately 30 miles east of Houston, and like several others in Texas struggled with spotty or un-reliable Internet service for years. The lack of competition among available ISPs provided no incentive to improve service. At the request of the Texas Attorney General's office, the city sought a legal opinion about whether it could issue municipal bonds to finance its entry into the Internet business. It successfully used case law to draw parallels between electricity and the Internet (Repko, 2019). Mont Belvieu municipal Broadband serves as a commendable blueprint for other cities, proving that it is possible to provide reliable Internet to all communities.

Fiber Optic Broadband. Fiber optic networks can also provide a viable option for city planners to create a plan of action to eradicate the digital infrastructure that contributes to the digital divide. Whereas in Broadband the transmitting information occurs as a digital pulse using electrical signals, fiber optic connection involves transmitting information via a pulse of light. This can be seen as a subset of Broadband service, though its connection is not through phone lines or coaxial cables. As a downside, fiber optic installation is pricier than Broadband, but the trade-off is that it results in less data loss and may be more sustainable across time.

Digital Literacy Initiatives. Research reveals that a lack of digital literacy can contribute more significantly to the digital divide than even the dearth of digital infrastructure. Among its many changes, COVID-19 has ushered in a change in the way the Internet is used. Whereas previous use focused predominantly upon a combination of business and entertainment usage, uploads and downloads in 2020 include a massive increase in video conferencing via Zoom or MS Teams for all levels of societal connection, from family gatherings to classes. Policy must envelop and educate the uninitiated into the digital age with patient leadership. Concurrent with Broadband's usage in virtual medical care, citizens must be able to access government

services online (e.g., apply for unemployment), conduct remote education, and telework from home. Reliable Broadband is essential to meet each of these daily needs, but so is the knowledge of how to use it.

Today, nearly 25% of the US population does not have access to broadband at home (Pew, 2019). In San Antonio, Texas 93,237 households lack Broadband of any type (National, 2018). By contrast, an Austin digital inclusion report stated that 95% of survey respondents have a home broadband internet connection, which is slightly higher than in 2014, which was 92% (Straubhaar, 2018). Clearly, money and power talk in Texas, but will they reach out to those less fortunate to secure the state's greater good?

The significance of Broadband and disparities in its usage indicate that the time has come for Broadband to be made a public utility like electricity, water, and gas, and regulated as such. However, those that oppose this argue that "Broadbandification" would not change underlying cost structures or the challenges of reaching those who do not have access, nor would it magically provide new capital that could be invested efficiently in extremely high-cost areas (Wallsten, 2020). While proponents call for solutions to closing the gaps in Broadband access, these others vehemently oppose treating Broadband the way we treat public utilities. Certainly, the economics of it all underlie such concerns.

Recommendations

Enabling all students from any race, ethnicity, class, or gender to have inclusive access to educational opportunity is paramount to the success of Texas as a whole. After all, its public education system needs to be the bedrock upon which its future economy will stand firm. With access at rock bottom, however, such assurances are far from stable. Social exclusion leading to unemployment, poor job skills, low income, poor housing, neighborhoods that lack security, and poor family structures (Social, 1998 as cited in Reddick et al., 2020). The exclusion experienced by persons who lack Internet access and know-how can manifest in diminished resources and opportunities in comparison to those who are digitally connected and fluent. Blank and Groselj (2015) position digital inequality as being associated with individuals and their socio-economic circumstances, not simply the digital infrastructure. The digital technology gap in marginalized communities is a direct result of privatization, and the highly uneducated population and lack of skills training in those communities cannot be separated from such disadvantages. Most of the digitally excluded are more likely to be less educated with less well-paid jobs, education and income and are disengaged from digital usage (Foley, 2003, as cited in Reddick et al., 2020). The digital divide, exacerbated since COVID-19, adversely impacts education, employment, and access to health resources, especially among minority and impoverished communities.

By funding the expanded infrastructure needed to offer municipal Broadband with fiber optic connectivity Texas stakeholders can help to "level the playing field for their residents and businesses, allowing their communities to compete in the digital economy" (Repko, 2019). Further, by underwriting digital literacy initiatives to support it, this municipal Broadband with fiber optic capacity will usher in a new era wherein the most vulnerable populations finally gain access to much-needed resources. This development of more inclusive policies in Texas may prove a useful example for other states to follow, as well. Through swift action in government-sponsored Broadband, needy students in both rural and urban areas across Texas will have access to what is required to improve not only their own futures, but also the quality of life for all of Texas.

Conclusion

The COVID-19 pandemic elucidated the looming digital divide. Unearthing the social and economic disparities in education, this historically impacted already-marginalized populations. One poignant question looms: what must be done to fulfill the social contract, attain distributive justice, and evolve beyond meager utilitarian stances regarding Internet access in Texas today? The funding of the socially just distribution of Broadband benefits must not be held back by mere capitalistic priorities, lest an entire generation of students be placed in immediate peril. Without such access, both classes and digital solutions that might otherwise support social justice cannot reach populations in need of them.

Initially identified under President Clinton's administration, this divide was classified as unequal access to the internet and computers. Today the situation exacerbates the proverbial gap between the *haves* and *have nots*. The digital divide gap impacts people of color, the economically disadvantaged, and other marginalized groups, related to the control of digital production tools and the appropriate context to use those tools (Subramony 2014, as cited in Rogers, 2016). Information and computer technology (ICT) has been acknowledged as a vital tool for economic and social upward progression. Making technology a public utility would allow universal access to become the baseline for handling structural barriers and decrease the widening wealth gap.

Furthermore, addressing this dilemma now will help educational institutions avoid replicating or exacerbating the inequalities that students bring with them. As seen in Figures 5 and 6, student engagement across grade levels were in a state of decline that began in Spring 2020 and continued through the beginning of the following school year. Prominent among concerns creating such data are "savage inequalities" in funding (Kozol, 1992); such inequalities have lead in the past to dilapidated school facilities, outdated technology, discriminatory curricula, and crowded classrooms, creating a disaster for already marginalized students (Darling-Hammond, 2010). Post-2020 the stakes are even higher: without repairing the breach of the digital divide, hundreds of thousands of Texas students are without access to school at all.

Pervasive historical practices of discrimination, exclusion, and marginalization have become even more emphatically unfair in light of the COVID-19 pandemic, and the time to solve for that is now. Broadband as public utility is an idea whose time has come.

References

54 Texas Utilities Code. § 54.201. (2005). https://statutes.capitol.texas.gov/Docs/UT/htm/UT.54.htm

Adams, O. (2000). [Review of *Falling through the Net: Defining the Digital Divide: A Report on the Telecommunications and Information Technology Gap in America.]* U.S. Department of Commerce. National Telecommunications and Information Administration. Washington, DC: NTIA. Journal of Government Information, Volume 27, Issue 2, Pages 245-246, https://doi.org/10.1016/S1352-0237(00)00138-6

Andriole, Steven. (2020). It's time for an internet-for-all public utility. Forbes Magazine. https://www.forbes.com/sites/steveandriole/2020/03/30/its-time-for-an-internet-for-all-public-utility-before-corona-crashes-it/?sh=67ad29d7af95

Auxier, B. and Anderson, M. (2020, March 16). As schools close due to the coronavirus, some U.S. students face a digital 'homework gap'. *Pew Research Center*. https://www.pewresearch.org/fact-tank/2020/03/16/as-schools-close-due-to-the-coronavirus-some-u-s-students-face-a-digital-homework-gap/

Ayala. M., & Ramirez, C. (2019). Coloniality and Latinx college students' experiences. *Equity & Excellence in Education 52*(1): 129–144. https://doi.org/10.1080/10665684.2019.1635542

Blank, G., & Groselj, G. (2015). Examining Internet use through a Weberian lens. International Journal of Communication 9, 2763–2783. Retrieved from https://ijoc.org/index.php/ijoc

Carlson, E. and Goss, J. (2016). "The State of the Urban/Rural Digital Divide." Washington, DC: National Telecommunications and Information Administration.

https://www.ntia.doc.gov/blog/2016/state-urbanruraldigital-divide.

Carpenter, J. and Webb, S. (2020, April 6). Now more than ever, Houston's 'digital divide' puts children's education in peril. *The Houston Chronicle*. https://www.houstonchronicle.com/news/education/article/houston-digital- divide-coronavirus-kids-schools-15178184.php#photo-19263533

Children's Internet Access at Home. (2020, May). National Center for Education Statistics. https://nces.ed.gov/programs/coe/indicator_cch.asp.

Connor, D.J. (2006, July) Michael's Story: "I get into so much trouble just by walking": Narrative Knowing and Life at the Intersections of Learning Disability, Race, and Class. *Equity & Excellence in Education 39(2):154-165.* https://doi.org/10.1080/10665680500533942

Conley, D. T. 2008. "Rethinking College Readiness." *New Directions for Higher Education* 144: 3-13.

Crenshaw, K. W. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, 43(6), 1241-1299.

Darling-Hammond, L. (2010). *Preparing principals for a changing world: lessons from effective school leadership programs*. Jossey-Bass. https://ebookcentral-proquest-com.lib.pepperdine.edu/lib/pepperdine/detail.action?docID=468677

Dweck, C.S. (2007). *Mindset The New Psychology of Success*. New York: Ballantine Books.

Escoto, W. (2017). Net Neutrality: The Social Justice Issue of Our Time. *Public Knowledge*. https://www.publicknowledge.org/blog/net- neutrality-the-social-justice-issue-of-our-time/

FCC. (2020). Broadband Utility Support. https://www.fcc.gov/reports-research/reports/broadband-progress-reports/2020-broadband-deployment-report.

FCC. (2020). Lifeline Program for Low Income Consumers. https://www.fcc.gov/general/lifeline-program-low-income-consumers.

Flahive, P. (2018). What smart city means: San Antonio launches committee on innovation, technology. Retrieved from Texas Public Radio https://www.tpr.org/post/what-smart-city-means-san-antonio-launches-committee-innovation-technology

Foley, P.D., Alfonso, X, Brown, K., & Fisher, J. (2003). Connecting People: Tackling exclusion? An examination of the impact on and use of the internet by socially excluded groups in London. London: Greater London Authority.

Gillbourn, D. (2010). The White working class, racism and respectability. *British Journal of Educational Studies,* 58(1), 3-25.

Gilroy, A.A. (2020, June 4). The Universal Service Fund and COVID-19: The FCC and Industry Response. *Congressional Research Services.* https://crsreports.congress.gov/product/pdf/IF/IF11520

Jobs for America's Graduates. (2017). GATE College System. https://jag.org/gate-college-system/

Kang, C. (2016). How to give rural America Broadband? Look to the 1900s. The New York Times.https://www.nytimes.com/2016/08/08/technology/how-to-give-rural-america-broadband-look-to-the-early-1900s.html

Kozol, J. (1992). If money doesn't matter, why all the savage inequalities? *The Education Digest.* v57 n7 (Mar 1992) 32.

Modarres, A. (2011). Beyond the Digital Divide. National Civic Review, 100(3), 3-7. https://doi.org/10.1002/ncr.20069.

Mulverhill, L. (2019). Texas' Digital Divide: The State of Broadband in Texas' Rural Communities. *Texas Comptroller.* https://comptroller.texas.gov/economy/fiscal-notes/2019/oct/divide.php

National Digital Inclusion Alliance. (2018). Worst connected cities. https://www.digitalinclusion.org/worst-connected-2018/

National Telecommunications and Information Administration (1995, July). "Falling Through the Net: A Survey of the 'Have Nots' in Rural and Urban America." Washington, D.C.: U.S. Department of Commerce. http://www.ntia.doc.gov/ntiahome/fallingthru.html.

Oberg, T. & Rafique, S. (2020, August 18). 13 Investigates Houston campuses with fewest students engaged. *ABC13 News*. https://abc13.com/education/13-investigates-houston-campuses-with-fewest-students-engaged/6376747/

OED Online. 2015. "intersectionality, n." Oxford University Press. https://www.oed.com/view/Entry/429843

Pew Research Center. (2019). Internet/broadband fact sheet.

https://www.pewresearch.org/internet/fact-sheet/internet-broadband/#who-has home-broadband

Philip, L., Cottrill, C., Farrington, J., Williams, F., and Ashmore, F. (2017). *The digital divide: Patterns, policy and scenarios for connecting the 'final few' in rural communities across Great Britain*. Journal of Rural Studies, Volume 54, 2017, Pages 386-398, https://doi.org/10.1016/j.jrurstud.2016.12.002.

Rawls, J., 1971. *A Theory of Justice*. Cambridge, MA: Belknap Press of Harvard University Press.

Reddick, C. G., Enriquez, R., Harris, R.J., and Sharma, B. (2020). *Determinants of broadband access and affordability: An analysis of a community survey on the digital divide*. Cities, Volume 106, 102904, https://doi.org/10.1016/j.cities.2020.102904.

Repko, M. (2019). Fed up with slow and spotty internet, a small Texas town built its own high-speed network. *The Dallas Morning News*, (TX).

Rogers, S.E. (2016 March 30). Bridging the 21st Century Digital Divide. TechTrends 60, 197–199. https://doi-org.lib.pepperdine.edu/10.1007/s11528-016-0057-0

Royall, E. (2018). Study: San Antonio among' worst connected' U.S cities. RIVARD report: Nonprofit journalism for a better San Antonio. https://therivardreport.com/study-san-antonio-among-worst-connected-u-s-cities/.

Social Exclusion Unit. (1998). *Bringing Britain Together: A national strategy for neighborhood renewal.* Cm 4045, London: The Stationary Office.

Special Populations. (2020). Texas Education Agency.

Straubhaar, J., S. Strover, J. Choi, S. Park, M. Skouras, M. Santillana, et al. (2018). Digital inclusion in Austin: Final report. https://tea.texas.gov/academics/special-student-populations

Stylus Publishing. (2015). *Intersectionality in educational research* (Ser. Engaged research and practice for social justice in education series). https://ebookcentral-proquest-com.lib.pepperdine.edu/lib/pepperdine/detail.action?docID=4438630

United States Census Bureau. (2017, September 11). The Digital Divide: Percentage of Households by Broadband Internet Subscription, Computer Type, Race and Hispanic Origin. https://www.census.gov/library/visualizations/2017/comm/internet.html

US Department of Agriculture. (2017). "Report to the President of the United States from the Task Force on Agriculture and Rural Prosperity" U.S. Department of Agriculture. https://www.usda.gov/sites/default/files/documents/rural-prosperity-report.pdf

Wallsten, S. (2020, May 21). Is Broadband a Public Utility? Let's Hope Not. *Technology Policy Institute.* https://techpolicyinstitute.org/2020/05/21/is-broadband-a-public-utility-lets-hope-not/

Villenas, S. (2001). Latina mothers and small-town racisms. *Anthropology & Education Quarterly*, 32(1), 3-28.

West-Olatunji, C., Sanders, T., Mehta, S., & Behar-Horenstein, L. (2010). Parenting practices among low-income parents/guardians of academically successful fifth grade African American children. *Multicultural Perspectives,* 12(3), 138-144.

Zion, S. D., & Blanchett, W. J. (2011). [Re]conceptualizing inclusion: Can critical race theory and interest convergence be utilized to achieve inclusion and equity for African American students? Teachers College Record, v113-n10, pp. 2186–2205.

Zwier, E. & Grant, C.A. (2014). Thinking Intersectionality in Education. In Grant, C.A. & Zwier, E. (Eds.), Intersectionality and Urban Education: Identities, Policies, Spaces & Power (3-27). Charlotte, NC: Information Age Publishing.

Appendix: Figures

Figure 1: Percentage of Households with Internet Access

Source: US Census Bureau Report 2017

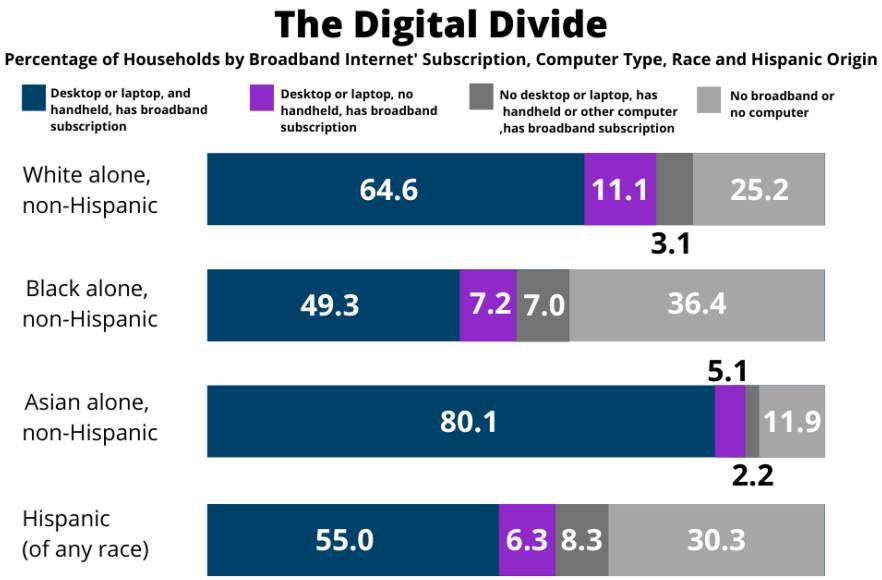

Figure 2: Pew Research Center

Source: https://www.pewresearch.org/fact-tank/2018/10/26/nearly-one-in-five-teens-cant-always-finish-their-homework-because-of-the-digital-divide/

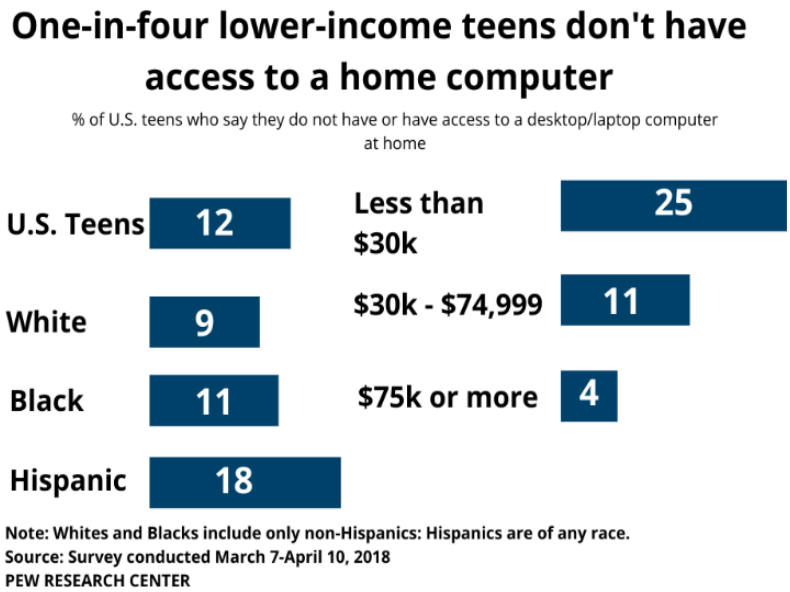

Figure 3: (2018) Percentage of 3- to 18-year-olds with home internet access, by child's race/ethnicity

Source: https://nces.ed.gov/programs/coe/indicator_cch.asp

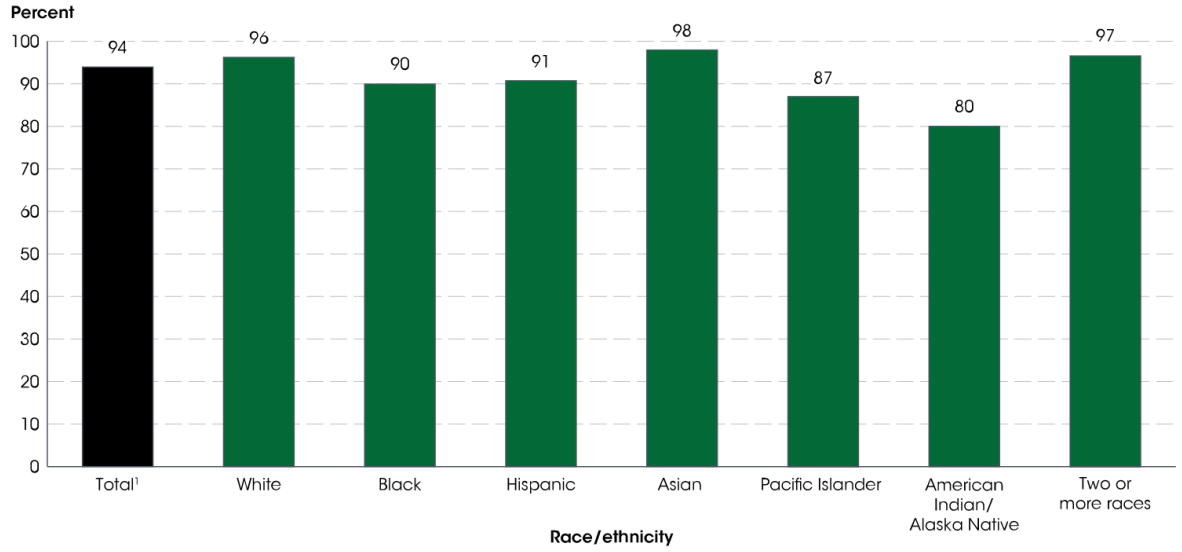

Figure 4. (2018). Percentage of 3- to 18-year-olds with internet access only through a smartphone, by race/ ethnicity.

Source: https://www.commerce.gov/data-and-reports

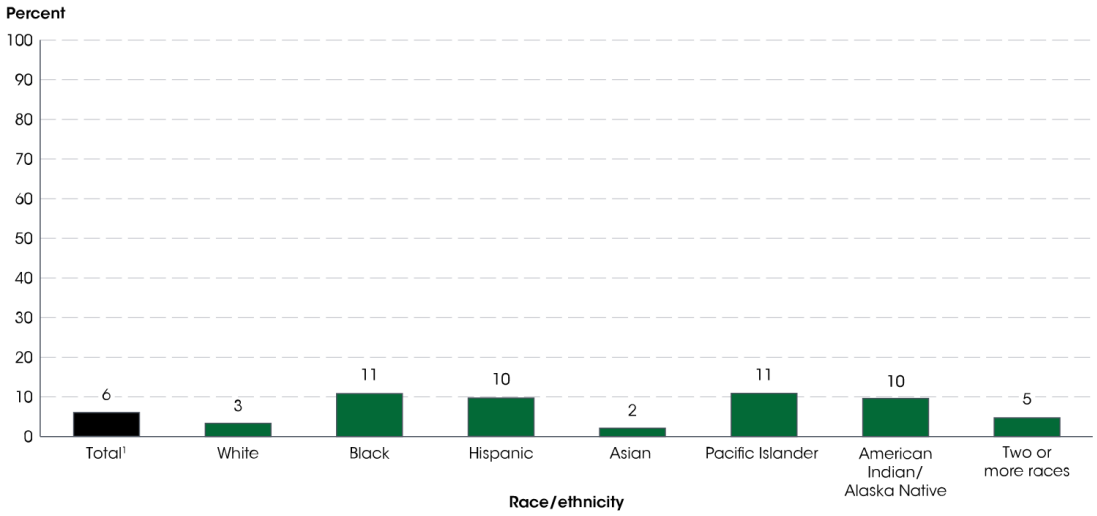

Figure 5: Spring Semester Engagement, Houston

Source: Texas Education Agency, 2020

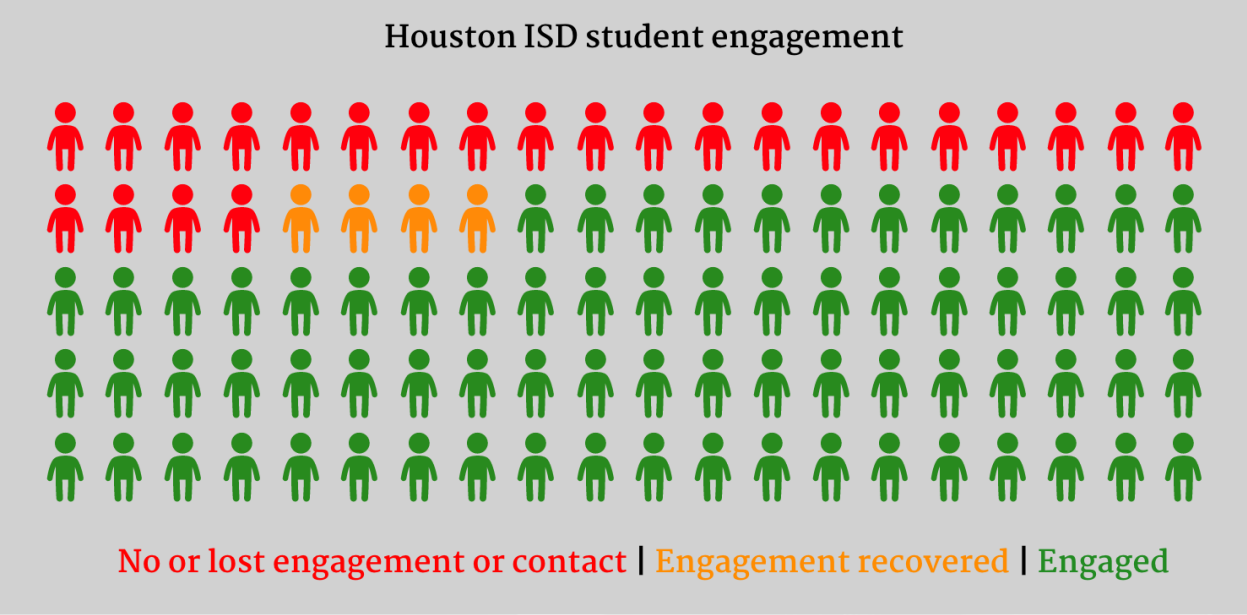

Figure 6: Texas Student Engagement by Grade Level, August 2020

Source: https://abc13.com/feature/education/thousands-of-texans-stopped-learning-during-the-pandemic/6374475/

