Technology Segregation: A Pandemic Crisis in Early Childhood Education

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Abstract

This research is focused on Technology Segregation and important differences between Black, Indigenous and People of Color (BIPOC) and white middle class young children's access and experiences. It is part of a larger research study on Anti-Racist pedagogy in early childhood classrooms and is a follow up to a previous study on technology segregation before the pandemic of 2019. Here, I interviewed six early childhood educators at the kindergarten through second grade level (k-2) before and during the national pandemic of Covid-19 to understand their views on technology segregation as young children were forced to shift to online learning. The participants all agreed that their BIPOC low income students suffered more learning loss and issues with online schooling then their white middle class counterparts. This article delves into present day technology segregation within a health pandemic and reveals many levels of structural racism that need to be interrupted and disrupted.

Keywords: Early Childhood Education, Technology Segregation, Structural Racism

Technology is proclaimed to be the future in early childhood classrooms. Children need to learn the latest technology in order to succeed in their later schooling, according to Hartle and Benson (2012). In the US, children in preschool, public school funded 4K, and certainly in kindergarten and elementary school programs, are expected to have some experience with computers; indeed, during the COVID-19 "pandemic," young children and their teachers as well as their families were expected to be able to interact with a computer, or other types of technology (e.g. ipads or other tablets, cellular phones.) Yet, access to technology is still a segregated practice, especially today during this world-wide pandemic. BIPOC (Black, indigenous people, and other children of color) young children have less access to modern technology than their white counterparts (Chao & Park, 2020; Freeman, 2021; US Commission on Civil Rights, 2018; Tager, 2019). This is part of a larger structural problem within the public school system and, I argue here, stems from the dominant ideology of racism.

Access to technology in the early childhood classroom continues to be limited for low-income BIPOC children in pre-K through first grade. My contention is that these technological inequities are rooted in structurally racist practices and as such will be referred to as Technology Segregation in this article (Tager, 2019). Inequities in school funding are symptomatic of this racist framework that must be confronted and disrupted; technology segregation is an outcome of these inequities, but it is also important to study by itself given that differentiated access to and use of technology extends beyond the schools.

This is an timely topic, especially during a world-wide pandemic (Covid-19) where BIPOC students are struggling with virtual schooling. In my recent research study on Anti-Racist Pedagogy a kindergarten teacher who dealt with this crisis of technology segregation in her virtual classroom was appalled at the district's lack of support for BIPOC families. She observed first-hand how BIPOC kindergarteners were trying to keep up with the white middle class children who were grouped in pods and had a plethora of technological devices to work from. She has always known about this technology gap but seeing it unfold in real time had a direct impact on how her virtual kindergarten operated.

This article will examine the realities of technology segregation today within a larger research study on Anti-Racist pedagogy in the North East region of the United States. My prior research study on Technology Segregation was related to two other research projects in the New England area, however, this was before the pandemic (Tager, 2019). This specific study focuses on how the pandemic exacerbated Technology Segregation and made it more visible to the general public.

The Larger Research Study

In this latest qualitative research study I interviewed six early childhood educators (k-2) in three different nearby school districts to see how they were effectively utilizing Anti-Racist pedagogy in their classrooms. I also observed them teaching on two occasions. It was supposed to be three observations for each, but I only got to visit one teacher three times. Towards the end of the research phase of my project all of the schools in the area closed due to the pandemic and children were given one week to adjust to virtual learning.

As I sifted through the data of this larger research study on Anti-Racist teaching and learning in early childhood, I noticed that there were schools in my study that fared better with going virtual. These schools, which included a school in a district that is 94% white and middle class were more able to shift to online learning quickly than other schools in my study. One of my participants, Ms. Houston, who works in one of

these schools calls it an "environment of privilege." She knows that her kindergartners have privilege and one of these privileges is access to technology. Her students also have a variety of technological devices at home, which made it easier for them to shift to online learning.

Methods and Data Analysis

The six teacher educators who participated in this research study were referred to me in a variety of ways, including: word of mouth, principal recommendations, colleague recommendations and each other. This process, in research is considered a snowball effect, as one person would come on board and refer me to another person. Some of the participants knew each other, as three worked in the same district, and also two of them are in a long term relationship.

After each interview (which was recorded), I personally transcribed each word and presented these transcripts to my participants for review. Later, I read through each transcript and coded them, looking for themes that stood out. I re-read these codes in the margin and wrote various analytic memos on the themes discovered (Saldana, 2013). This offered me time to reflect on the variety of categories that emerged as I evaluated the coding through multiple passes. This process helped in the gathering of data and made the findings clearer. At the last interview (on Zoom) I presented my preliminary findings to my participants for discussion and utilized their input as well. Each chapter of my forthcoming book was based on the findings/categories that presented themselves (Tager, 2022).

Much later, I evaluated these data and applied it to this smaller study which is centered on technology and how it was accessed by BIPOC children during a world-wide pandemic. After reviewing the data, it was clear that each school and/or district's response to virtual learning was different and inherently unequal to BIPOC populations.

Theoretical Framework of Study

Critical Race Theory is a visible framework in which to study the phenomenon of technology and race. This specific theoretical framework has been applied to this qualitative research study, and goes hand in hand in the uncovering of ongoing systemic racist practices in early childhood education. With true understanding of this specific topic, the hope is that, we, as critical educators, can disrupt normative paradigms that marginalize and exclude non-white populations.

This theoretical framework purports that race is a social construction that is and will continue to be a significant factor of determining one's value in our society (Ladson-Billings, 2021a). This theory derives from a law

school context as it examines how everyday racist practices within institutional structures affect everyday lives of all populations (Delgado & Stefancic, 2017). It has been defined as "a body of scholarship steeped in radical activism that seeks to challenge the prevalence of racial inequality in society" (Rollock & Gillborn, 2011, p.2). Delgado and Stefencic (2017) illustrate ways that the United States economy and history is based on the hierarchy of race and suggest all institutions, including schools, reproduce this deficit paradigm.

The central tenets of Critical Race Theory are as follows: the centrality of racism (pervasive), white supremacy (the normalization), intersectionality (multiple injustices intersecting identity), race as a social construction, and hearing the voices of BIPOC populations (shared storytelling) (Ladson-Billings, 2021a, b); Rollock & Gillborn, 2011). This particular research study focuses on the first two components as will be noted in the findings.

It is important to note here that there is currently a political debate surrounding the teaching of Critical Race Theory in schools and several states are in the process of passing legislation to ban this ideology in their districts. The critics of this theory believe that this theory is racist against white populations and makes them feel shame for their whiteness (Petit, 2021). They would like to remove all books, such as the classic Ruby Bridges book from the curriculum because there are pictures of white mobs who are angry about desegregating schools. To be clear, this is not about Critical Race Theory in schools as it is not being taught in K-12 schools, even though critics claim this, and it has recently been politicized as such (Ladson-Billings, 2021a). Instead, conservative critics do not want teachers teaching about the history of race and racism, period.

Related Literature

All of the latest research points to the importance of utilizing technology in pedagogical practices at a young age (NAEYC, 2012; McClure, Guernsey, Clements, Bales, & Cooney, 2017). Instructional technology helps to disseminate information in a different way than traditional teaching. Using smartboards, auto-document cameras, and multimedia devices in the classroom provide new and different ways to teach curriculum standards. They can be more interactive, child centered and easier for the visual child to construct knowledges. For example, using a Smartboard in a lesson about other cultures, literally takes the children to the global destination and gives them visuals and information that is more accessible.

It is also more interesting for a young child to go up and interact with the lesson, than to passively sit by and try to absorb new content. Since children learn differently, it is important to utilize a variety of ways of representation when planning a lesson. There is a significantly greater chance of all the children understanding the content when it is presented in a variety of ways. Technology is a way to do this on an ongoing basis. Digital devices utilized in early childhood classrooms may include:

- Tablets
- Google Chrome Books
- Interactive Whiteboards
- eBook Readers
- Computers
- Laptops
- Digital Cameras
- Video Recorders
- Smartboards
- iPads
- Auto document Cameras
- Assistive technology devices (NAEYC, 2012)

According to NAEYC and others (Katz, 2010, McClure, et al., 2017) young children need to be intellectually challenged and engaged and they need to be actively involved in the learning process. Critical thinking and active engagement can be cultivated through a technological venue.

Technology is also critical for students with special needs (many of whom are BIOPOC) as they need to utilize it in order to meet their own learning needs. For example, my daughter, who is BIPOC, needs assistive technology, speech to text, to help her to write stories or her ideas on a subject. She also works better with iPads than Google Chrome Books, as she is able to use the speech to text for all of her work. In order for early childhood teachers to meet the specific needs of their special education population and to provide Universal Design for Learning, which individually accommodates to their needs, they need the use of technology.

Technology Infrastructure

It is important to note here that a technology infrastructure is needed in a particular school district in order to make technology accessible to all students. This includes specific devices, various software and connectivity to the internet (Daugherty, Dossani, Johnson, & Wright, 2018). The devices usually include: smartboards, auto-document cameras, iPads, Google Chromebooks and etc. Assisted technology, such as talking calculators, text to speech hardware, augmentative

communication devices, assistive listening systems and more, are used to help young children with different disabilities (language/speech, autistic, hearing and visual impairment and learning disabilities). During the pandemic it was noted that 43 percent of BIPOC students had to do their work on cell phones as they had no access to computers (Chao & Park, 2020). Software is a tool that helps young children learn and practice new knowledges. It is the programs that make the devices function. Educational software is a rapidly expanding market with thousands of new upgrades; however it costs a lot of money and is not always viable for high poverty school districts.

Connectivity to the internet is also very important to technology infrastructure and most districts in the United States have issues with ongoing connectivity. Spotty internet connections directly affect learning and this was clearly an issue during the pandemic. In 2020, 51 percent of students from low-income households didn't have internet at all (Chao & Park, 2020). The United States has higher costs for internet service (compared to Asia and Europe) and slower speeds, which clearly affected low-income families as they struggled to make payments during the pandemic (Freeman, 2021). Sixty-one percent of latinos and 44 percent of blacks experienced a loss of income during this time which means that BIPOC populations had to prioritize rent and food over internet service (Chao & Park, 2020).

Findings--Technology Segregation during the Covid-19 Pandemic

Students in the districts I researched were given a Google Chrome book with some software located on the hard drive. However, there was no guarantee that children had homes with proper connectivity to the internet. The teacher participants in my study noticed that certain groups of students, low income and BIPOC students, had more spotty internet connections and therefore would either not show up for parts of instruction or be kicked off the internet at key points of the day. I, myself noticed that some children would freeze as they were talking or get kicked out of break out rooms because of spotty connections. This district had no control over the issue of connectivity, because this township did not have free WIFI, unlike a nearby township. Low-income BIPOC families don't always have the ability to pay for high speed internet and this was much more noticeable during the pandemic (Freeman, 2021).

Another issue was that community centers, YMCA's and public libraries were closed due to the pandemic, so that low income families and BIPOC students did not have access to public WIFI. With a shelter in place in this township for over one year young students had to make do with their lack of connectivity. As Chao and Park (2020) suggested

elsewhere, this directly affected the overall 40 percent of the BIPOC student population who said they planned to use public WIFI to finish their schoolwork. This meant that they were excluded at times from ongoing online instruction. In order to combat this issue the district had various pick-up dates for materials outside their schools and families were expected to pick these materials up (hard copies of worksheets, math books and etc.) so that they could supplement at home if there were issues with technology. However, this was problematic, because the teacher still wanted the children to upload pictures of completed work, which some children were unable to do because of issues with connectivity. Many parents, more BIPOC than white middle class parents, based on interviews done for my study, also did not have the proper training to help in uploading materials and/or were not present to aid their children. This means that more BIPOC and low-income students were unable to share their work with their teacher and get the appropriate feedback needed to make progress in their learning.

Another huge problem during the pandemic was the presence or absence of the parent/guardian during online learning. Many BIPOC and low-income families in these particular districts were called to duty as frontline essential workers and therefore were not able to be home with their children during online schooling. They worked in retail positions, such as big chain stores, fast food restaurants and caregiving jobs, such as home health workers, retirement home employees and etc.

White middle class professionals were able to transition to working from home and therefore were nearby to help their children navigate the complexities of online schooling. For example, as a college professor in the education department of a public university I was able to work at home during the entire pandemic, teaching all of my classes through zoom. This enabled me to help my nine-year old daughter navigate her own online schooling, as I was able to be present for most of her school day. Even though I am an educator I found it difficult to help her with technological issues that randomly came up.

Technology Segregation exemplifies that disparity in teaching and learning in schools populated with BIPOC students. Only 39% of all public schools have working wireless network access (Cohen & Livingston, 2013). And more importantly, only 20% of educators say their school's internet connection meets their teaching needs (Cohen & Livingston, 2013). The schools that suffer from lack of internet connections, a poor maintenance of wireless networks/devices are usually in high poverty schools with majority BIPOC students.

Darling-Hammond refers to these as "apartheid schools," as they are segregated by race and by educational resources (Phillips, 2016). These

'apartheid schools' are deemed inferior by the public at large and the young children of color have either low or no technology in their everyday learning. This is clear within the schools in this study, as the majority white schools had fewer problems with virtual learning. Thus, Technology Segregation is just another way in which society controls young black children and excludes them from their own learning.

The districts involved in this research project provided Google chrome books, but they did not provide professional support with the technology and most of the BIPOC parents have front line jobs and cannot attend or help their young children navigate virtual schooling. Ms. Fern, in her interview three, which occurred in the summer of 2020 states:

> I have a friend who calls this pandemic a 'Time of Reckoning' and I think it really is…a Time of Reckoning for people…I hope it compels us to make change…this reckoning…And say…like wait, why is that when I am thinking about my pod I am only thinking about these white families that I know… because I have only ever had playdates with those kids…I am in the same neighborhood as those kids and have never reached out to others in other neighborhoods…now that we have this pandemic… we got virtual teaching and it is just…the divide is more evident…so when you are thinking about schools re-opening or not re-opening…or who gets to go back and who doesn't get to go back…who has access…who doesn't have access…yeah, to technology…to support…at the early childhood level…And let's face it remote learning requires adult support….and not everybody has support and a lot of that support is based around race and class.

Here, Ms. Fern is talking about how the pandemic has dramatically revealed the inequities and inequalities in our schools. She speaks of it as the "Time of Great Reckoning" but it has always been in place, and is just an example of the power dynamics that control our institutions. Even the whole notion of Pods, which are groups of people who can play and learn together, ideally, without worrying about being infected by the Covid-19 virus from others, is an elitist concept. White families can build pods with other white families, hire tutors, have one or two educated parents help with remote learning and not invite families of color to join because they don't personally know any. This relates to the theoretical framework as it exemplifies the both the subtle, hidden, and more open ways racism and its normalization impacted children, and their families in these schools.

Ms. Houston, another kindergarten teacher, this time in a majority white district, agrees. She believes that the national pandemic reveals a whole set of inequities in segregated districts, including access to technology and online learning.

> Ms. H: The pandemic creates a whole other layer of inequities that have always been there but that again are amplified since… like once you see it …you see it… once you see it you can't unsee it… so it was really trying to talk about white privilege… and how it is again… amplified by the pandemic… "my child deserves better… and I have to work… and I…. and you need to take care of my child… my child needs this and this opportunity and oh since the public schools are not fulfilling what I think my child needs… I pull them" well that alone is privilege… and so recognizing it is that this study helped me do… that inward… recognizing your own bias… seeing it around you… this idea of pods too… is hard for me
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> R: Yes, that is a very elite concept … the pods…
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> H: It is very elite and at the same time they are saying… the other side…can the district create pods that include POC?
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> R: Not going to happen
> H: It's not going to happen but at the same time… we are talking about safety and it is shown that… I have definitely struggled with this… but this is where I think again… systemic racism… low-income housing… there tends to be more POC and because of that… and access to good health care… because of all that the numbers are much higher… right? The numbers of Covid… Okay, if we are all talking about being able to be safe and not increase your exposure… how do you reconcile that? How do you reconcile that in having equitable pods? Which to me says… don't do pods at all and figure it out (laughs)

Ms. Houston makes an interesting point, safety and health are issues of concern when talking about the formation of pods and the systemic segregation that excludes BIPOC low income students.

It is not acceptable for a district to give out Google Chrome books, with no manuals or instructions and expect families to understand how to operate virtual schooling effectively. It is also not okay for the district to demand that families be present to support their very young children in their virtual learning. Family members do not replace paraprofessionals or other early childhood educators that usually interact with children face to face. Other issues include: Navigating the various online programs, having children work independently online, lack of WIFI connectivity, expecting parents to take photographs of their child's work and upload it online, making sure that everyone has equal access to supplemental materials and more.

Structural Racism

Structural racism operates throughout our public school system. I believe there is an immediate connection between Technology Segregation and structural racism (Tager, 2019; Freeman, 2021). It can only exist within this oppressive framework and therefore must be addressed as an outcome of this ideology. Ms. Fern talks about this as a teacher online during a global pandemic:

> F: Yeah…Yeah…and now that we are in this pandemic… we got virtual teaching and it is just… the divide is ever more evident… so when you are thinking about schools re-opening or not re-opening…who gets to go back and who doesn't get to go back…who has access…who doesn't have access…yeah to technology…to support…at the early childhood level…let's face it…remote learning requires adult support…Like all of it (laughs)…there is not a moment where the five year old sits down and turns on the computer and watches me do something on zoom and they are good to go. Yeah, not everybody has support and a lot of that support is based around race and class
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> Researcher: You hear about all of this pod stuff they want to do...White families that want to get together with other families…in pods and they are going to help each other
>
> F: It is very elitist…very privileged

> R: People that are home…clearly…they can do that…other people working at Walmart…and they can't
>
> F: Yeah…yeah...so how do you include kids? How do you include everybody in that? …and it is interesting to hear that the parents are like "No I want to include other people" which I get and I understand…and I am glad that they are thinking that way but it is also…isn't this really shining a light on the fact that you don't have relationships with these people…

It is clear that Ms. Fern sees the disparities of Technology Segregation during a global health crisis and believes that it is related to structural racism within the institution of public schooling.

Ms. Houston speaks to her own work as a teacher during a national pandemic. She talks about the importance of keeping in touch with her students, beyond the technological sphere, so that she can maintain strong relationships with her class families. As she visits each of her students, she recognizes more and more the structural inequities of their living situations:

> H: Yeah…I did phone calls to my kids and to their parents and…actually the good thing about ----(district) being so small… I thought I can visit these kids…social distancing…like I could stand at the end of their driveway…we can be in masks and be distant and see them face to face and I could hit everybody in a day…
>
> R: Did you do that?
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> H: So, I did that twice – two rounds of it…and I had a handful of kids that were out of district…but I am in -----(town) so I was half way between…so I was able to visit my kids in ----(nearby town) I was able to visit them as well…it was so hard not to give them a huge hug because I am a hugger…and it was eye opening too…to see their experiences…to see what they have been doing…where they have been living…and particularly my little one from ----(nearby city) was in a very small apartment with not much of a yard…a little driveway…and I was like "so what have you been doing? Tell me…what fun

> things…" trying to make it. exciting and she was mostly inside with her sister watching television… and then visiting someone else "Oh look at my new four wheeler! Look at this new pool we got" It was…yeah it was hard ...it was heartbreaking…so I tried to say "Oh you can always go to the woods" we have that outdoor classroom in our school…she likes to hike so I said, "Oh you should go for a hike…and show mom all about our forest classroom" so I was trying to say that it was right behind our school…lots of kids said "oh we get to spend so much time in our backyard" and not everybody has backyards… and they can't use playgrounds…and that's where the pandemic…it is another place where the pandemic has been harder and again not to say that all kids of color are in apartments without backyards…it's a gross overstatement but it tends to be more kids of color than…

Here, Ms. Houston is referring to the different home environments that her students are living in during lock-down and how they differ dramatically for her one student of color located in an urban environment. Thus, the pandemic made it harder for this child to explore the outdoors and/or safely play outside.

Other examples of structural racism include: higher referrals of BIPOC children to the special education team, higher rates of suspensions and higher rates of academic intervention services due to low assessment scores in reading and math (Harry & Klingner, 2006; Randolph, 2013). A deficit based discourse surrounds the young low-income BIPOC child's schooling. Exclusionary tactics, such as referrals to the special education team and suspensions are the direct result of structural racism and it's practices. BIPOC children are therefore excluded from their own learning, as they are taken out of mainstream classrooms and/or suspended for behavioral issues. According to Harry & Klingner (2006), white teachers in densely populated non-white schools refer 30 to 50 % of their BIPOC students to the special education team. Proportionately more BIPOC students are suspended from early childhood programs than all other populations. Blacks are only 19% of the preschool enrollment but are 47% of all suspensions (US Dept. of Education, 2013-14).

This relates to Technology Segregation, as it is another way in which young BIPOC children are excluded from their schooling. Structural racism in the schools is a burden for young BIPOC students. The majority are stuck in high poverty schools that are segregated and have less funding and therefore they lack access to technology. Inequities in

school districts are of paramount concern. Residing in a poor economic area, with lower property taxes directly affects the quality of the schools. Districts that spend less per student, due to taxes, offer less services and resources, including technology (Tager, 2019; Tatum, 2017).

Conclusion

Early childhood educators that are actively promoting Anti-Racist pedagogy and critical reflection on race with young children are instinctively responding to structural racist practices, which includes inequities in technology. There is a plethora of research on how the very young child first questions their own race and the race of others (Tatum, 2017; DiAngelo, 2018). This research demonstrates that "children start to construct their ideas about race very early" (DiAngelo, 2018, p. 108). Therefore, it is important that early childhood educators address issues related to race in their classrooms, as young as preschool.

Children are very aware of unfairness. They will constantly point to the issue of fairness in the classroom, encouraging the teacher to take stock in its concept and asking them to make it paramount. "That's not fair," is a sentence that is common in pre-kindergarten and kindergarten classrooms. They are always searching for fairness and they know that there is a chance of it being made of as an example in the classroom. In my first interview with Ms. Fern she states:

> Small people are so naturally wanting the world to be good and wonderful and they come to you with their big big open hearts…they are ready to make things good…They want things to be fair and for people to feel good and they understand these very vital concepts of justice and love and equity in a way that grown-ups get stuck…Like parents, most teachers dismiss this notion of fairness, precisely because they want to believe that society, in general plays fair. But how can it if there are inherent power dynamics that favor one race over others. And this is how white supremacy as an ideology operates within institutional systems.

One of the main problems in public schools today is that teachers (90% white) have lower expectations of BIPOC students than white students (Tatum, 2017). Anti-Racist pedagogy directly combats this idea and as such is helpful in this counternarrative of culturally deficit thinking. Marx states, "Culturally deficit thinking remains firmly entrenched in the American mindset" (Marx, 2006, p. 15). Thus, this type of thinking promotes and maintains white supremacy within its institutions. It

benefits white populations of children and victimizes and oppresses populations of BIPOC children.

Schools are inherently unequal. This is due to a variety of reasons including: inequities in school funding, segregated practices, institutional racism, teacher retention issues and more. Materials, including technology, are inequitably distributed district to district and PTO's in wealthier white communities can raise more school funds than low-income schools with large populations of BIPOC students (Tager, 2019).

Ms. Houston, who works in a majority white school district was very clear in her interviews that her school has more resources than other schools in high poverty districts. She is probably more attuned to it as she was herself a student in an inner-city environment with large populations BIPOC students. In the following excerpt she makes her opinions on equity known:

> R: What are your thoughts now that you are in a school that is predominantly…it has a high percentage of whites…it is 94%....I looked up the data…
>
> Ms. H: That makes sense
>
> R: What are your thoughts of working in that type of environment which is very restricted?
>
> Ms. H: It's an environment of privilege…because we are two thirds school choice…um so we get kids from -----(another town)but school choice is also a place of privilege because you have to…be able to get…transportation…which means you have to have somebody who can
> bring you to school for eight O'clock and pick you up at three O'clock…that alone is privilege…having a job where you can pick up your kid…or the means to pay for an afterschool program and pick them up at five.
>
> R: But do you feel like you fit into this school? District? Like if you had an ideal job would it be at this school?
>
> Ms. H: It would be this school with more diversity to be honest

> R: But I don't think that can happen
>
> Ms. H: Unfortunately, the places that I would want to be in are so over-regulated that….even ----(town 1) and ---- (town 2) are incredibly regulated and so you have to do certain programs…you know 'same day same page'…you are expected to do a lot of these things or you are expected to be able to create an environment where you are still able to meet all of these expectations but also providing what you know is developmentally appropriate.

Clearly, Ms. Houston does not like working in her "environment of privilege" but also can't fathom working in more 'diverse' (segregated with majority BIPOC students) schools because they are too regulated and compromise her academic freedom. She doesn't think it is fair for low-income BIPOC students to be over -regulated but she does not want to be a teacher there either for the same reasons.

What can we do?

Technology Segregation clearly plays an even more expansive role in the American schooling process. Giving more money for technology programs to predominately non-White schools is only one small solution to this problem. Changing mindsets of district officials, principals and teachers, who are largely white, is much more important. If a district really wants to effectively change its practices, it needs to be a part of this disruption process.

This means that money needs to be provided for professional development workshops, meetings and committees that work on challenging everyday racist micro-aggressions within the schools and community outreach. All district supervisors must attend workshops that deal with race and racist issues within education. Teachers and principals need to be trained in anti-bias, Anti-Racist discourse. Communities, including so-called liberal communities, such as the town(s) of this research study, need to form committees to address racist practices, such as: inequities in technological funding, higher suspension rates for Black children, higher placements in special education classrooms and etc. Deep reflection and ongoing educational practices/training need to occur in every district nation-wide.

Technology Segregation will persist and worsen as newer and more advance technological equipment designed for learning are implemented in the early grades of public schools nation-wide. Challenging this term through critical research is the key to change, in educational policies,

federal fund reports, professional development, technological support, and the implementation of Anti-Racist pedagogy.

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