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Blank Slate: Freedom, Connection, and Accountability in U.S. Virtual Schools

By

Anne Elizabeth Jonas

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Doctor of Philosophy

in

Information Management and Systems

and the Designated Emphasis

in

Science and Technology Studies

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Jenna Burrell, Chair

Professor Paul Duguid

Professor Deirdre Mulligan

Professor Janelle Scott

Fall 2021

Abstract

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Professor Jenna Burrell, Chair

For a small portion of U.S. schoolchildren and their teachers, going to school online was the norm even before the COVID-19 pandemic forced a mass shift to remote learning. Finding conventional schooling ill-suited to their needs, this diverse group turned to virtual schools in an effort to distance themselves from harms they associate with the traditional school experience, balance their external responsibilities and interests with education and work, and focus on the pursuit of learning while extracting what they saw as extraneous elements packaged into standard schools. Virtual schools here propose datafication as a means to proffer freedom for those who chafe under the requirements of traditional schooling.

Drawing on interviews and observations with teachers, parents, students, and industry professionals across the U.S., I find that virtual schools are fueled by existing social inequality, precarity, and destruction of public infrastructure, and contribute to realigning responsibilities from the public and private sectors onto individuals and families. However, this shift is often welcomed or at least tolerated by participants in exchange for a promise to accommodate the diverse conditions under which students and teachers work, and the ability to transform their varied labors into commensurable data without requiring adherence to rigid norms of behavior.

I explore how this process unfolds in a constant tangle between precarious webs of care developed through intensive relational labor and coercive efforts to produce quantifiable metrics legible to the state. While digitization does often increase the sense of distance and opacity between teachers and students, interfering with teachers' core ability to practice attunement, teachers develop strategies to recuperate visibility and practice caring responsiveness. Affective and relational labor undergirds the functioning of these virtual school systems, providing a way to produce necessary data to meet accountability standards without standardization and to emotionally sustain teachers, students, and parents through difficult times. Yet it also provides workers with leverage against attempts at automation and "de-skilling," leaving both companies and cash-strapped districts with reasons to work towards diminishing or replacing these methods in search of higher profits and unchecked authority. These processes threaten to reinstate the very harms participants sought to use virtual schools to escape.

As debates about online education reach new heights due to COVID-19, my research advocates expanding beyond narrow measures of scholastic achievement in evaluating virtual schools. Instead, I suggest that we more broadly consider what role digital platforms could play in meeting the diverse needs of participants in contemporary life and challenging the unequal distribution of life chances that has so long prevailed within the American education system.

For my parents, who taught me first and by example how to be open to the world, to notice, to connect, to respond with curiosity and love, and to find ways to contribute

And to Christina Crosby and Janet Jakobsen, who brought to life for me the concept of interdependency, and made it – like everything else they touch – into magic

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For most of the time I worked on this project, I lived and worked on the stolen land of the Lisjan Ohlone people. I am grateful to the Sogorea Te' Land Trust for their work to rematriate that land.

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Note on Representation

Pseudonyms are used for all schools and participants in this dissertation. I tried to emphasize to participants in some cases that because of the uniqueness of their circumstances, it was likely that determined readers could identify their schools. This is especially true the more specifics I give about a school. I have attempted throughout to weigh the use of detail to provide greater understanding with any risks to participants and to withhold specificity where I thought it likely to cause harm. As I discuss further when explaining my methods in Chapter 2, where possible, I have provided participants with excerpts of this dissertation to review and made changes when requested to avoid individuals being identified beyond their social circles. Yet I was unable to reach all participants, did not provide participants with a complete or final draft, and I include some material without personally identifiable information that could potentially be embarrassing or upsetting for those affiliated with the school at hand. It should be clear that while I use particular cases in the service of this research, this study is not ultimately about any individual school or person, but about what these instances can contribute to broader understanding. However, I recognize that this process is fundamentally fraught, and I take responsibility for any harm I cause through these decisions. Similarly, I have made an effort to accurately represent works cited and to include as many references as I could that directly influenced my work, but I am certain there are errors and omissions, for which the fault is my own. Unfortunately, a family crisis during the final week of working on this manuscript makes it more likely that there may be errors in the text. I welcome opportunities for discussion and repair and can be reached at annejonas@berkeley.edu.

Preface: The Abridged Story of Lake Hybrid Charter School

“Resisting the move to solidify new media as a particular location, I examine new media as sets of social relations – metaphorical landscapes of social interaction – rather than any given, particular place. These landscapes offer a momentary glimpse of pivotal relations that make up our understandings of ourselves, our surroundings, and of others. But new media do not offer stable sites with literal clear entrances and exits to social worlds.”

- Mary Gray, *Out in the Country*, 103

“People both shape and are shaped by places...we all become defined by place – both by the places where we do not belong and by those where we do.”

- Carla Shedd, *Unequal City*, 9

The first time I visit Lake Hybrid Charter School, I reluctantly get up while it is still dark outside, walking in the crisp fall air to catch the train downtown from my father’s house. Doing so reminds me of days in my childhood when I would sleep over at my best friend’s house, much further south, and we would take the same train line to our public school, here in the neighborhood where I grew up.

But that day, I don’t see my alma mater through the window – the express train doesn’t stop there, and the conductor asks for my ticket just as we go by. I look out at the other side and see the trees against the lake, light spreading as the colors from the sunrise start to fade and cold brightness takes over from the shadows. When I was a kid, going downtown during the school day was exciting, and I feel the vestiges of that as we pull past shiny new buildings. I liked the fact that my school had students from all over the city, but I did not think too much about why. It wasn’t until my second year of graduate school that I learned the schools I had attended since kindergarten existed in their current form because the city was under a consent decree to try to integrate by luring middle-class white parents like mine to stay with the city’s public schools via magnet school options.

I get off the train at its terminus, a major tourist attraction, and take a bus West to get to Lake. It’s a bus I took in high school to get to the central train station that connects to the Amtrak and the lines that go out to the suburbs, where I would go my senior year of high school and the summer before college so that I could take the train to visit my girlfriend.

Why am I sharing these experiences that seemingly have little to do with virtual schools, the ostensible topic of this dissertation? At the risk of navel-gazing, I begin by narrating this trip and its links to my past to illustrate how schools are wrapped up with places, with people, with particular moments in time. I want to remind you, before we really begin, that a school is many things at once, and is interlaced with families, governments, friends, media. I want to show a glimpse of how the personal autonomy of people, especially schoolchildren, can be channeled, facilitated, catered to, denied.

When I was growing up, Lake didn't exist yet. When I first contacted Lake's leadership in 2018, it had been open for twelve years. For most of that time, the school has been physically co-located in a building in a wealthy downtown area owned by a nonprofit music school. The building stretches over most of a city block, near several hot spots for restaurants, within walking distance of the center of the city. While the music school has some classes during the school day for small children and their parents, most of their activities take place at the opposite of Lake's day-to-day classroom operations, which run around 8am to 3pm, Monday through Friday. The bus I take drops me off down the street from Whole Foods. The school building is across from a park on one side, but its entrance faces a huge construction site. It's another condo, Lake staff tell me, the area is booming. The neighborhood is filled with glassy residential luxury buildings. It's "crazy expensive" to live there, I'm told. A parent complains that their car got backed in by construction trucks. On Google Maps, a crane blocks the view of the school building.

Inside, there's a lobby with an impressive marbled front desk staffed by a music school employee. Off to the side, down a narrow hallway, is the front office for Lake, with a window that looks out at the street and construction. This is the domain of Ms. M. (E5), who has a dual position as receptionist and assistant to the CEO. She calls the office a "zen place." In the center of the room, facing the door, is Ms. M's desk, an L shape which takes up about a third of the room. In December, when I first visit, there's a little Christmas tree with lights and a silver star on top. Small plants fill the windowsills. She plays music in the background. There's a piano sitting in the corner with books stacked on top of it. On the walls are notices on employee rights and posters from the school district about children with medical conditions. Ms. M has a stash of candy and politely refuses my offer to share my trail mix, jokingly saying she doesn't want a healthy snack. There are several small tables where students, parents, staff, or observers like me can sit. It doesn't feel like any front office of a school I have ever been in – instead of being an intimidating space of discipline, it feels comforting, warm. Next to the front office there's a small meeting room. Across the lobby is a large open room filled with round tables and chairs, known as the parents' room, with vending machines. From the lobby, the building splits off into a maze of hallways, with classrooms and offices and an auditorium or two. Just to the left of the lobby's front desk, a staff member often sits at a table in the hall, with a laptop in front of her, a pink aromatherapy diffuser gently blowing steam into the air. She checks attendance for the high schoolers as they come in.

Up the stairs, there's an office area of cubicles with an entrance locked from the hallway, and more classrooms. Many of the classrooms have chairs and music stands and pianos pushed aside, while students and teachers sit behind long tables. The pianos serve as a surface for coats, gifts, and papers. Each classroom has either a chalkboard or a white board, and most have projectors.

Lake is small, hovering between 500 and 700 students for kindergarten through 12th grade. The school is a charter school and can enroll students who live anywhere in the district, which spans the city. They receive state funding for each enrolled child and are eligible for various forms of federal school financial support as well. They maintain a waiting list, but enrollment is limited by grade levels, and some grades are more in-demand than others. Lake administrators are proud of the racial diversity of the student body, which stands in stark contrast to the infamously segregated nature of the city public school system. In 2019, the 10% of white students at Lake is similar to the district as a whole, while almost 60% of students are Black, compared to around

35% for the district. Twenty percent of Lake's students are classified as Hispanic, less than half the percentage for the district. Percentages of Asian (under 5%) and Pacific Islander and American Indian students (both under .5%), are roughly similar to the district's total, while Lake has a slightly larger percentage of biracial students, at around 3%, than the district does at about 2%.¹ The percentage of children recorded as having disabilities is roughly similar to the district at 15%. The school's share of English Language Learners represents less than half that of the district as a whole, under 10%. Students identified as low-income ² are over 60% of the Lake population but represent over 75% of the district's students. About 2% of the school's students are categorized as homeless, compared to approximately 3% of the district at large. The school did not report on teacher demographics.

Describing Lake's structure is complicated because during the time of my engagement with the school, so much was in flux. Long established policies and practices and new initiatives disappear in a few months between my observations. Still, certain elements remained relatively constant throughout the time I observed at the school. The school is broken up into elementary and high-school units with separate principals, and cohorts are clustered by grade, but much of the governance for the school takes place across grade lines. Students also take classes not directly offered by Lake through third party providers, particularly in subjects that are not reflected in local and federal standardized tests, such as science.

The school provided all students with a laptop. Vouchers for internet reimbursement were available in the past to families as long as their students had passing grades, at a cost of \$60-180 a year based on family income. But Ms. M tells me that "99.9% will have internet regardless" and they could use that money elsewhere, so they're planning to stop. Students who apply for it are also provided with a bus pass with enough fare to make a weekly round trip from their house to the school building. Parents can also get cards to bring their children to school. As I sit with Ms. M in the front office, she goes through student bus cards, reloading their fares. An adult calls her and says a student is stranded downtown because there's no money left on their card. Ms. M. explains to me, with some amount of exasperation, that she loads the cards every five rides, assuming students use 2 rides each day they come into the building. In theory, this provides one way to verify attendance, because students check in to get their cards refilled. But because students will use the cards for non-school activities, they sometimes end up running out early, resulting in cases like the student stranded downtown.

You can usually tell by looking who is in the building for Lake, and who is there for the music school, though at least to my untrained eye, it's not precise. Moms in exercise clothes with strollers or carrying toddlers are probably music school patrons, there for a baby music class. Kids in school uniforms carrying various musical instruments – music class. Parents looking stressed, checking their phones, standing around in the hallway – probably Lake. Older kids, often in groups – probably Lake.

Each Lake teacher has "class connects" – synchronous online meetings – with students two days

1. These stats are roughly rounded to avoid exact detection. Numbers drawn from the state's 2019 public reports.

2. According to the state report card, low-income students are those "who receive or live in households that receive SNAP or TANF; are classified as homeless, migrant, runaway, Head Start, or foster children; or live in a household where the household income meets the USDA income guidelines to receive free or reduced-price meals."

a week and meets with each group of students in-person once a week. 9th and 12th graders attend in-person sessions on Mondays, 10th and 11th graders on Thursdays, and elementary schoolers come in Tuesdays and Wednesdays. Younger grades have one teacher for all subjects, while middle and high school are more specialized. Fridays are reserved for professional development and asynchronous work. Students are technically required by long-standing school rules to come into the building half a day each week, although it becomes clear over the course of my observations that some consider this requirement more of a suggestion. The requirements for teachers' physical presence is also contested – in the past, most teachers have come in two days a week to teach different groups of their students, but lately they are being asked to come in more often on Fridays for professional development. Students are also welcome to come into the building and work in the “parent room” on days when they don't have in-person classes. Some do this because a sibling has in-person class on a different day and it's easier for parents to have both students in the building at once. Others come in because their internet is unreliable or they feel their home environment is less conducive to focus, or to see their friends. Students are always allowed to come in if they want to and are never turned away. This is generally a small group of students. As the name implies, the room is also an intentional space for family members to be present in the school, whether their children are currently in the physical classroom or working on their computers. Several student families are currently homeless and living in a shelter, and especially need a space to go during the day when the shelter is closed. The school had recently begun serving lunch. At first, this consisted primarily of buying pizza for whoever was in the parent room, but slowly transitioned to a more formal process of contracting with a catering company to provide lunch for a particular number of students each day.

When I first come to observe at the school, the CEO, Dr. Murray, gives me a tour of the building. They need more space, she says, for extra-curricular and wrap-around services, which they're currently trying to do off-site. Wrap-around services may entail family counseling or support for navigating health care and housing systems.

After several failed attempts at trying to access virtual schools for this research, I am surprised that Dr. Murray has welcomed me with open arms. But like me, she is eager to address the elephant in the room – that research has frequently shown poor academic outcomes in virtual schools. She is immediately on-board with my claim that ethnographic research can help to disentangle some of the mechanisms at play in these outcomes and identify what conditions might be contributing to these statistics. Also, my affiliation with a technology focused discipline and Bay Area tech industry connections fits with her desire to brand the school as a new and “innovative” project, one that connects students with lucrative career opportunities at the big tech companies she references regularly, like Google, Apple, and Amazon. When I first meet her, Dr. Murray. has been in her new role for about six months. The school has had as many leaders as the years it has been open, but her position is unique, because she's the first CEO since the school separated from a national charter management organization, Bluebird Inc,³ and went independent.

3. It is impossible to come up with an appropriate pseudonym for this and other organizations discussed in this dissertation, in part because so many of the names that might reflect appropriate style and content are the actual names of other education technology endeavors. This company has also changed its name at least once since I began this project, as have many other companies involved in the virtual school world. For now, I have gone with fanciful names to make it easier to track what I am talking about.

The transition has been fraught and is shrouded in mystery. Michelle (E9) had been instrumental in making this shift. She had been a board member during the transition, whose child had previously attended the school. She had since moved out of state but was continuing to return to the city to use her skills as an attorney in an administrative staff position at Lake School to help the school rebuild and restructure as an independent entity. Michelle had spent some time living in the neighborhood where I grew up and attended school, near a private university, and would frequently reference it as a touchpoint, an exemplar of high-quality education with fiercely involved parents. Michelle tells me that she is constrained in what she is allowed to share about the break with Bluebird because of their legal agreement. However, the primary points of contention seemed to be about fundraising and governance. As long as they were linked to Bluebird, Lake was prohibited from collecting donations on their own. They were also limited in the changes they could make to the charter management organization's way of doing school. I had originally learned about Lake from a childhood friend, Ashley (G5), whose sister is enrolled as a student there. Ashley had bemoaned the switch, telling me when we met in September, after the school had cut ties with Bluebird over the summer, that students were still waiting to receive laptops – critical to instruction – and struggling to adjust to the new curriculum and platforms that were being introduced piecemeal in the wake of losing access to Bluebird's integrated and well-oiled machinery. Even a year after the switch had taken place, parents continued to express confusion and anger about what many saw as a lack of transparency about the process and a failure to adequately prepare an alternative before abandoning the established CMO with its vast resources.

In the face of opacity around the decision-making process in changing from under Bluebird's management to independent, competing narratives blossomed. Dr. Murray and Michelle framed the transition in ideological and pedagogical terms. They contended that Bluebird was not serving students and families well enough, and they had a radical vision for how to build a better school. The challenge, Michelle told me in our initial conversation, was avoiding falling back on the traditional school method. At the time of the shift to independent management, Lake had been put on both academic and financial probation by the local school district. As a charter school, they received public funding and were thus accountable to state governance. For Dr. Murray and Michelle, there were three major areas in which the CMO was failing the school that they planned to change.

First, they wanted to transform the pedagogy of the school. Similar to other technology-mediated education reform efforts (Sims 2017), they wanted to move beyond lectures and static curricular modules. As we walked the halls, peering into classrooms, Dr. Murray retained a look of visible impatience. She said that Bluebird's model was "too traditional for her" – she wanted to see "more project-based learning." In our initial meeting, she explained that she felt Bluebird's style was "stuck in the 50s and 60s," while she wanted to "prepare students for the future." She wanted to connect with students' lives, for example by leveraging the "international connections" of students to gain language fluency. She was also eager to make use of the school's position in the heart of the city and partner with high-profile cultural and educational institutions.

Since parting ways with Bluebird, she said the school was moving to be "more hybrid than

virtual.” This meant students spending more time in-person, but more importantly, she felt, this meant teachers being in the building much more often – “almost every day.” The second area in which Dr. Murray felt the CMO and previous iterations of the school had come up short was in what they required of teachers and the ways they were evaluated. She pointed out that many virtual schools struggled with poor average academic performance, and that many teachers were quick to blame parents for those deficiencies. She stopped short of directly saying that perhaps teachers were instead responsible for these outcomes, but that was the undercurrent of her comments. Unsurprisingly, there was a great deal of tension between Dr. Murray, Michelle, and other administrators as well as Lake’s school board and many of the long-term teachers at the school. Michelle framed it as “facing entrenched practices from before,” while Dr. Murray said, “there’s some resistance among staff to these changes,” perhaps an understatement. Teacher turnover in the year following the transition was very high. But Dr. Murray said that teachers were hearing from students that they wanted to be in the building longer.

Related to the first two points, the third element of transformation Dr. Murray, Michelle, and their allies envisioned for Lake was a much deeper engagement with parents at the school. They believed parental involvement to be central to the success of the school model and wanted to scaffold and nurture that involvement. Their dream was to have a Parents University as part of the school, to explicitly bring families into the learning process in a type of “teach the teachers” model. Rather than displace the certified teachers at the school, this would complement their efforts. Such a distinction was crucial because Lake’s existence relied upon the foundation of professional teachers. Michelle (E9) told me that the school began with Bluebird Inc. as part of a city-wide initiative to open more charter schools that dovetailed with the CMO’s efforts to start virtual schools across the country. Bluebird and the parents involved in creating the school wanted to start a purely virtual school, similar to Bluebird’s other schools across the country, but were challenged by the local teachers’ union, who argued that this constituted homeschooling, taking advantage of public funds. Local courts found this was not the case, because there was directed instruction taking place with certified teachers. That shaped how the school became a hybrid, requiring student in-person attendance for half a day a week and including certified local teachers.

Ruth (T16) had been with Lake Hybrid Charter School since the beginning, twelve years before our interview. She had a slightly different origin story. Her friend had started the school, she told me, because she felt that her son, “a profoundly gifted child,” was not having his needs met with their current school options. However, Ruth said regarding the school’s origins that “The management and curriculum company that we’ve used up until now [Bluebird Inc.] will tell you a different story.” They would say that they were looking to expand to the city and connected with Ruth’s friend to help make that happen. During my tour with Dr. Murray, she notes that Bluebird, a publicly traded for-profit company, is now moving into career technical education, because that’s what’s profitable. In contrast, she says, “we want to improve things here.” Bluebird’s bottom line, she suggested, was always going to be about their earnings, whereas school leadership wanted to prioritize the specific needs of students and families in their community.

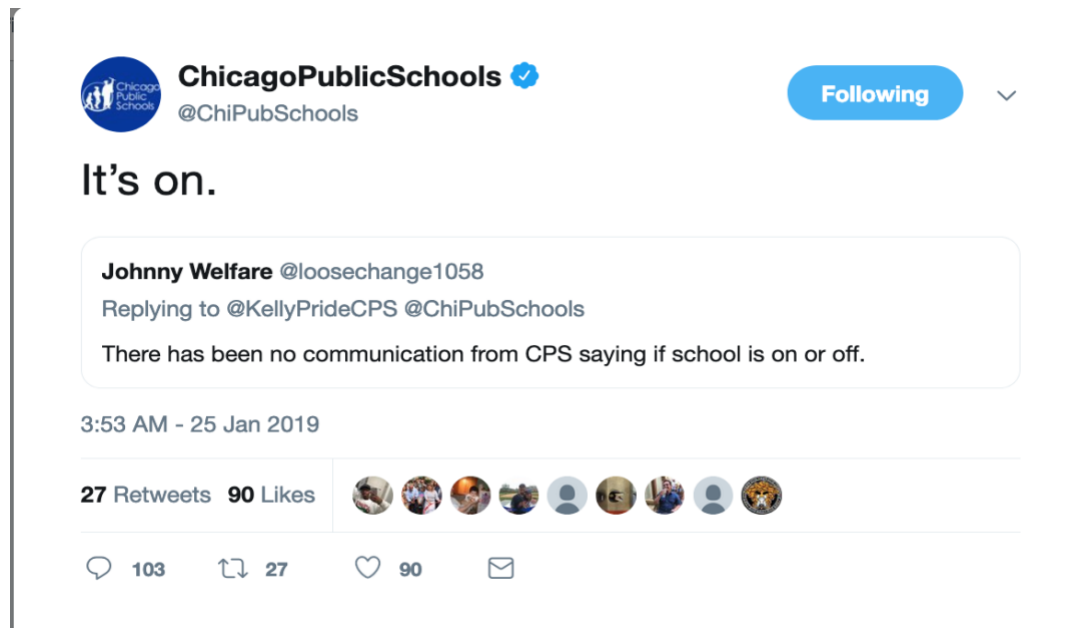
This assertion hinted at another element of the rift with Bluebird and attempts to overhaul the school that Dr. Murray brought up in our first conversation. Bluebird, she said, was “not

necessarily supporting all children” – there were distinct gaps in equity and equality. While she didn’t specify further, I interpreted her reference to be towards racial disparities. Many of the teachers who had been with the school for a long time were white. Dr. Murray, Michelle, and several of the administrative staff they had hired, including Dr. Arthur, the new high-school principal who would become the “Head of School” when the elementary school principal resigned, and the Academic Director who would eventually take the place of Dr. Murray as CEO, were Black. At one meeting, a Black parent emphasized her desire to have more of the school’s teachers be drawn from people who live in the city. Although the city itself is racially diverse, I interpreted her comment as suggesting in part a desire for more Black teachers, to better match the student body. I understood these efforts to be attempts to make the staffing of the school better match the student body and to design the school to better respond to structural constraints many student families were facing due to systemic racism.

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In January of 2019, I visited the city for a long weekend to attend a memorial service and try to move forward my fieldwork at the Lake school, which had been stalled by byzantine bureaucratic hurdles and my own anxiety. I chose the red eye flight to save money. When I arrived at 5:30am, I intended to nap for an hour before heading to the school building, but it was too bright and loud to sleep, so I charged my phone, added a layer of leggings under my jeans, and took the train into the city. It was -6 (Farenheight), feeling like -20 with the windchill. Spoiled by California weather, I was terrified.

To distract myself from my fear of the cold, I looked up the Chicago Public Schools Twitter account as the train ambled through the near north-western suburbs. At 3:53 am, CPS had quote-tweeted someone who posted two minutes earlier saying, “There has been no communication from CPS saying if school is on or off” with the terse comment “It’s on.” People replied to the tweet expressing their frustration and fear, with the original poster replying, “Why was there zero communication last night when parents needed to prepare for the next day?” Another said, “What an unprofessional announcement. You know everyone was waiting to hear. If you knew last night it should have been clearly stated then. And this morning the only announcement I see on this account is ‘it’s on’. So disrespectful of the CPS families.” And another, “not all of us have cars. not all of us have everything we need to stay safe in this weather. some of us have an hour or more to commute on CTA. this is unfair and HARMFUL.” Eventually there were over 100 replies – I saw one that agreed with the decision, which argued, “Not once did we have a day off due to weather. Majority of the posts I see here are from high school students that are about to enter the working world. There are no such things as snow days in the working field. You grow a backbone and deal with it. Nothing is handed to you.” A few others noted that maybe there were reasons to keep school open, though they disagreed with the way it was being handled, “As I think about this question, maybe for a lot of kids, CPS is where they will be warm and where they will eat breakfast and lunch today. With that being said, attendance today should be optional at the very least. Shouldn’t ding the kids whose parents decided to keep them home.”



This situation offered a tangible example of the value of the hybrid model the Lake School employed. In theory, students could work from home without falling behind, never having to leave the warmth of their homes (if they were heated). They would gain stability, relieved from the capricious weather and the decisions CPS made about it. And because the school was hybrid, if students needed heat and food and were able to travel to the school building, they could choose to come in. The school's central location might provide some transit advantage, though if they were traveling from neighborhoods far from the center of the city, they (like many other students in magnet and charter programs) would be more exposed to the perils of the weather than those who are enrolled in local neighborhood school options.

When I left the train station, the cold hit me immediately. I had looked it up – after 30 minutes of exposure to this weather you are at risk for frostbite. I made a plan – get breakfast at the fancy hipster diner a ten-minute walk from the school, then go in to begin my observations. I stumbled into a 7-Eleven and bought gloves, then walked as fast as I could without slipping on the ice. I was afraid that if I put my contacts in my eyes, they'd freeze. I covered my nose and mouth with my now gloved hand, but it still hurt to breathe. My phone, which ostensibly had 30% battery or more, died almost immediately. I made it to the diner and almost cried with relief at the presence of warmth and food and coffee and an outlet.

Once I'd eaten and warmed up, the waiter brought me the check. Mysteriously to me, he said, slightly under his breath, 'check out Mr. dark and tan over there?' I had no idea what he was talking about. I thought I heard him hiss "Rob," but I continued to stare at him, perplexed. 'Rahm,' he said finally, raising his voice slightly, maybe slightly exasperated. 'Rahm Emanuel, the mayor, he's sitting over there.' Recognition dawning, I apologized for not knowing. He shrugged and took my credit card.

Emanuel was wearing a light blue button-down shirt and navy jacket, no tie, and looking relaxed and happy, talking with the man sitting across from him. It was one month before the mayoral election, and Emanuel had decided not to run for a third term.

During his time as mayor, Emanuel, the former Chief of Staff to President Obama, had closed 50 public schools, all of which primarily served Black and Latinx students. Sociologist Eve L. Ewing (2018), a CPS alum and former CPS teacher, has documented how Emanuel's administration attempted to frame the closures as the inevitable product of declining population of schoolchildren in certain neighborhoods, actively obscuring the structural history, steeped in racism, that led to the existing patterns of school distribution and housing which left some schools with lower numbers of students at this point in history. Ewing looks at how in the historically Black neighborhood of Bronzeville, families who had been blocked by redlining from living in other neighborhoods were refused the opportunity to send their children to schools outside their area, even when their schools were over-crowded and nearby predominantly white schools were under-enrolled. This led to the building of more schools in the confines of Bronzeville. When the city systematically destroyed public housing in the area decades later, accompanied by a rise in charter schools, the population of schoolchildren attending district schools shrunk. But as Ewing documents, the city simply argued that these schools were "under-utilized" and had poor test scores, refusing to engage with why this was the case or how they determined their thresholds. Ewing finds that despite the city's attempts to claim that students would be better off without these institutions, their loss was mourned like a death. A report from the University of Chicago Consortium on School Research (Gordon et al. 2018) found that school closures had a plethora of negative effects on students who were displaced. At one of the schools originally slated for closure, Dyett High School (located a mile west of my childhood home), students who remained as the school was in the process of closing were forced to take the majority of their courses, including P.E., online, prompting a lawsuit claiming a violation of students' civil rights (Strauss 2014).

Emanuel had also been the target of activists, including a large number of youth, who were angry about his proposal for a new police academy that projected to cost \$95 million. A coalition of over 85 community organizations opposing the effort ("'No Cop Academy' Campaign Opposes \$95 Million for New Police Grounds" 2017) explained,

Chicago already spends \$1.5 billion on police every year—that's \$4 million every single day. We spend 300% more on the CPD as a city than we do on the Departments of Public Health, family and support services, transportation, and planning and development (which handles affordable housing). This plan is being praised as a development opportunity to help local residents around the proposed site, but when Rahm closed 50 schools in 2013, six were in this neighborhood. The message is clear: Rahm supports schools and resources for cops, not for Black and Brown kids.

In the fall of 2017, Eve L. Ewing was on stage being honored as the recipient of the Carl Sandburg Literary Award when Emanuel got up to give a speech. Ewing, sitting directly to the right of Emanuel's podium, turned her chair around so that her back was to the mayor, in a clear statement about her opinion of his leadership and his treatment of the city's youth (Coval 2017).

Having paid for my meal, I left the diner and walked over to the school, the wind not quite as bitter by this point. I mentioned the encounter to Ms. M (E5), a life-long Chicagoan, hoping it might prompt some reflections from her on Emanuel's legacy when it came to city schools. But

Ms. M seemed deeply uninterested. She commented only, “He’s surprisingly short,” organizing the papers at her desk. “About your height.”

Following the controversy around Lake’s move to independent management, rumors of nepotism and grift would frequently bubble up in chat among virtual attendees at Lake school board meetings. One employee referred to the constant drama as “game of thrones,” referencing the popular TV show at the time. These accusations were further fueled by a series of controversies involving the Dr. Murray, the CEO. Shortly after our first meeting, Dr. Murray was arrested on charges of theft. She was accused of submitting receipts for personal activities in the amount of approximately \$1,000 for reimbursement in her previous position as Superintendent for a school district in a neighboring state. To me, the arrest seemed like an egregious over-reaction. Dr. Murray had paid back the funds and while the details of the activities as laid out by the press – a spa visit while on a business trip – appeared to be mildly salacious, there seemed to be little evidence of broader corruption.⁴ The charges were eventually dropped. After a closed discussion, the Lake school board decided to continue to support Dr. Murray in her role as CEO. However, accusations of financial mismanagement, alongside parental frustration about the lack of communication regarding the Bluebird Inc. break, continued to shadow efforts to transform the school. In April, one year after Lake had separated from Bluebird, local news, tipped off by Lake parents, broke the story that Michelle was making a six-digit salary in her role as consultant, while also billing the school for her trips from out of state. Around the same time, I attended a forum meant to be an opportunity for parents to discuss their concerns about the transition with board members. Parent representatives demanded to speak to board members in closed session about urgent accusations related to financial maleficence. A month later, Dr. Murray was placed on indefinite unpaid leave, without public explanation. Dr. Arthur, the widely respected Head of School, was promoted in her place. But over the summer, frustrated with the Board, Dr. Arthur resigned only a couple months into her tenure. The former Academic Director was appointed the interim CEO. Many of the long-time teachers and administrative staff expressed wariness towards the Academic Director, and there was a further exodus of a number of staff. This included Ruth, who was begged to stay and return by parents and board members, and Beth (E6), who had previously taught at Lake, sent her children there, and had worked as a Transition Specialist and parent liaison during the time I had observed at the school. When I followed up with Beth in the fall of 2019, she was working in a public school as the district teachers prepared for a city-wide strike. Despite the upheaval a strike would cause, she suggested, it was nice to work somewhere where she and her colleagues collectively held power to advocate for change, something she felt had been sorely missing at Lake.

⁴ Dr. Murray responded to an earlier version of this description that she felt the situation was grossly mischaracterized by the press and the district. She explained that the charge in question was for a massage which she arranged as an attempt to treat debilitating and at the time undiagnosed chronic pain after “numerous trips to the doctor and the emergency room” failed to help. She emphasized the racial and gender disparities rampant in the healthcare system that contributed to the lack of care she received, linking these conditions to the education system where she seeks to counter similar structural harm. Further, she pointed out that the framing of this therapeutic service as a stolen “luxury” relied on and mobilized longstanding and harmful stereotypes about Black women. She understandably objected to my use of the term “mildly salacious,” without proper contextualization, as further contributing to these violent narratives. I have revised this sentence with this in mind.

Amidst the administrative chaos, the school board recruited new members. Although in the spring, teachers had spoken frequently about getting their confederates onto the board – spouses, friends – as far as I could tell, the three candidates were all unconnected to current school community members. This was significant, and emphasized, in light of ongoing anxieties by parents and teachers about their belief in nepotism among the new school leadership. Board meetings took place both in person and online. In the chat of the online meeting, various community members, some anonymous, strove to make their concerns known. Regarding the prospective members, one wrote, “I’m sorry, but I am suspicious of people unrelated to anyone at this school just randomly finding [Lake] and applying to be a board member. Six of the new hires this year have direct ties to [the interim CEO]. I am deeply concerned.” There were various other accusations of conspiracies. One applicant was clearly taken aback by this process. She exclaimed, “you’re making me nervous! ...I’ve been on a lot of boards, this is the first time someone has dug deep into conspiracy...” After a thorough discussion of each applicant’s background and ties, all were approved, much to the consternation of those who believed something nefarious was afoot. One person commented, “wtf seriously? I am absolutely appalled.” Another: “Just accept corruption I guess.” However, the applicant who was distressed about this process declined to move forward, clearly shaken by the backchannel.

This would prove to be the final year for the Lake School. The district would vote to close the school, and the state refused to overturn their decision, despite the efforts of staff, students, and a marketing and advocacy firm hired to try to save the school. Ironically, just as Lake’s virtual doors were closing, all schools in the district (and many across the country and the world) were sent online by the spread of the COVID-19 pandemic.

Lake is a unique school, but I believe many of the themes in this story set the stage for the discussion to follow. The challenges Lake faced – trying to meet the needs of diverse groups of students, including those who had been betrayed by city policies new and old, grappling with opposing visions of accountability, attempting to transform while remaining beholden to standards outside their control, and working with a baseline level of opacity that spurred ongoing crises of distrust – are central to understanding the apparent contradictions of virtual schooling today. In this dissertation, I attempt to make sense of some of these patterns. This examination is partial and incomplete, hampered by commonplace logistical hurdles and a once in a century black swan event. I hope it can offer some additional insight to those trying to figure out what virtual schooling means as it currently stands, and what it has the potential to become.

Chapter 1: Introduction

Sector after sector has been transformed by the mutually constitutive forces of neoliberalism, globalization, and technology. Schools have not been immune from what sociologist Allison Pugh (2015) calls “an Age of Insecurity.” Municipal school systems have experienced major overhauls, with school closures, privatization, and the ‘marketplace of choice’ framing that dominates public discourse about schools resulting in constant waves of reform (Horsford, Scott, and Anderson 2018; Cuban 2005; Rose 2014). Despite the claims of critics who argue that schools have remained largely unchanged for over a century, public schools in the United States have weathered massive structural shifts throughout much of the first two decades of the 21st century (Dorn 2018). Even through these changes, public education to some extent remained one of the last bulwarks in an always patchwork and increasingly crumbling American system of social entitlements (P. Carter and Welner 2013). As the role of organized religion in American life dropped precipitously (Pew Research Center 2019), and employment became increasingly precarious and ad-hoc (Pugh 2015), one thing the vast majority of Americans could share and rely on was the existence of public schools in their community and their personal experience with them. In 2016, 91% of American students attended public schools (U.S. Department of Education, National Center for Education Statistics 2019). As sociologist Eve Ewing (2018) has argued, “A school means the potential for stability in an unstable world” (47).

And then came COVID-19.

Although localities differed, in many parts of the country, the pandemic completely upended the experience of schooling. Likely more so even than the transformation of work broadly, where many white-collar workers were already increasingly accustomed to remote work (Goldberg 2020), the mass transition to remote schooling was possibly the most wide-spread disruption to the everyday organization and experience of elementary and secondary schooling since at least legal desegregation and its backlash.

But for a small subset of students and families, little changed in their schooldays, because they were already going to school online. When, in the fall of 2020, I asked Sophie (G6), one of the parents who had participated in my study, how things were going for her and her son since the pandemic began, she responded that her son “has been largely unaffected.” Thousands of families likely felt the same. By 2019, the U.S. Department of Education's National Center for Education Statistics found almost 700 fully virtual public schools across the country, and over 8,000 qualified as “blended,” involving substantial elements of both virtual and face-to-face instruction (U.S. Department of Education, National Center for Education Statistics 2020). In her book *Cutting School*, scholar Noliwe Rooks (2017) documented that “In thirty states and Washington, D.C., there are fully online schools available” and that in one Philadelphia district, “cyber schools accounted for fully educating more than a third of the children in 2014.” By 2019, there were almost 300,000 students enrolled in full-time virtual schools, with over 130,000 more at blended schools (Molnar et al. 2019). At the time, these groups together made up approximately .8% of public American elementary and secondary school children.⁵ For

⁵ Back of the napkin math using overall enrollment in public schools data from <https://educationdata.org/k12-enrollment-statistics> – these numbers do not include children in private schools, virtual or in-person.

comparison, in 2016, the percentage of American school-age children who were considered homeschooled was 3.3%, up from just 1.7% in 1999 – and this group has an unknown amount of overlap with those enrolled in virtual schools (Grady 2017). While the number of people involved in virtual schooling in the U.S. remain small, their population has been steadily growing, and is poised to expand substantially following the pandemic (Blagg and Gross 2021; Molnar et al. 2021).

Virtual schools are hard to pin down, taking diverse forms, but they are fundamentally educational organizations where the majority of instruction is computer-mediated. These may include entirely digital platforms where students attend at a distance, or hybrid environments where students pursue the majority of their work online while being physically present for some portion of their schooling. Platforms often involve course ‘modules’ with curriculum information, similar to a digitized textbook paired with assignments and embedded quizzes. Many virtual schools also have “live lessons” where teachers synchronously lecture or lead discussion, streaming their image or voice alongside slides or a virtual ‘blackboard.’ Virtual school platforms also frequently entail a messaging component, similar to an internal email system, and sometimes a separate interface for learning coaches who support students at home, most frequently a parent or guardian.

The same platforms may perform different functions for different students – offering credit recovery options for those who have failed a course, advanced courses not available at a student’s main school, modules that can be woven into an in-person lesson, and a full-time program. These digital platforms may deliver fixed and pre-determined content which students advance through mostly alone, or may have structures that involve greater choice, flexibility, and peer engagement. Institutional differences such as the level of synchronous interaction, a school’s status as public and managed by the school district, charter, or private, target demographics of students, location during school time, and the content of the curriculum create diverse student experiences, as do an individual child’s and family’s circumstances.

Despite this variety, scholars and policymakers critical of virtual schools have expressed concern about the quality of education students are receiving via the majority of such programs (Burch and Good 2014; Figueiredo-Brown 2013; Rooks 2017; In the Public Interest 2015; Molnar et al. 2021; Barbour, Miron, and Huerta 2017). As journalist Anya Kamenetz (2018) documents,

The main issue at stake in the fight is this: Virtual schools’ test scores and graduation rates have, consistently, been very low. So low that their performance, along with, at times, disputes over attendance, have led them to be shut down or placed at risk of closure in states including Colorado, Indiana, Minnesota, Nevada, Ohio, Oklahoma, South Carolina and Tennessee.

As Molnar et al. (2021) summarize, drawing on student standardized test scores, graduation rates, and other criteria determined by states, “Existing evidence strongly indicates that virtual schools are performing poorly with no signs of improvement.” Using matched comparisons with students in brick-and-mortar district-run schools, researchers at the Center for Research on Education Outcomes found that there is “little doubt attending an online charter school leads to lessened academic growth for the average student” (Woodworth et al. 2015). It is worth noting

that these negative performance findings are consistent across research funded by school privatization advocates such as the Walton Family Foundation (In the Public Interest and American Federation of Teachers 2015), and critics, such as In the Public Interest. In addition, recent years have seen several high profile cases where virtual schools defrauded the state of millions of dollars using deceptive enrollment (Herron 2020; Huntsberry 2019a).

These patterns are especially disturbing given that scholars argue that virtual schools are promoted by policymakers and virtual school advocates as alternatives for students for whom traditional⁶ schooling systems are inaccessible, inadequate, or hostile. Rooks (2017) argues that those looking to expand charter schools target “economically vulnerable students” including those in “[p]oor, rural, and urban districts,” Indigenous students, and those in foster care (150-151). Figueiredo-Brown (2013) documents that virtual school providers have shifted from marketing their programs to academically advanced students towards “students with academic or other needs that place them at-risk in traditional systems” (3). Burch and Good (2014) make the case that while high-quality online education can be “transformative,” in practice, “the digital education present in low-income settings tends to be ‘worksheets on a screen’ or ‘drill and kill’ work that demands little critical thinking or application of new concepts” (70). As mentioned in the Preface, in Chicago, the use of online courses in a school designated for closure by the city was presented as evidence that the city was not providing an equitable education, violating the Civil Rights Act (Strauss 2014). One seeming contradiction of this understanding of virtual schooling, however, is that on average, “Virtual schools enrolled fewer minority students and substantially fewer low-income students compared to national public school enrollment” (Molnar et al. 2021, 4). Virtual schools also have smaller proportions of students with disabilities and English Language Learners (Molnar et al. 2021). Yet as Figueiredo-Brown emphasizes, these aggregate data can obscure differences between schools and states, with some virtual schools including much higher proportions of students in these demographic categories. Critics of virtual schools understandably see red flags in the myriad deficiencies of an educational path disproportionately advertised to those subject to structural and inter-personal violence.

But scholars have convincingly shown that schools with poor academic performance outcomes, limited financial resources, and even predatory financial structures can still have meaningful benefits for students and communities that are not reflected in traditional metrics, and that even when intrinsically detrimental, their value to individuals may be directly tied to broader social forces that incentivize their existence (McMillan Cottom 2017; Ewing 2018; E. V. S. Walker 1993; Schneider 2017). In other words, “bad” schools may serve a variety of needs for students and families that “good” schools overlook. It is also well-established in the literature that schools which perform well on dominant evaluations do not necessarily equally serve all students, and in fact are known to be vectors of social sorting and unequal distribution of life chances (Calarco 2018; Ferguson 2000; McDermott 1993; Morris 2015; Oakes 2005; Shedd 2015; Willis 1981).

⁶ Many virtual school participants refer to “brick-and-mortar” schools or sometimes “traditional schools.” I use both terms throughout. However, “brick-and-mortar” foregrounds the physical building of the school, when there are in fact many elements along which virtual schools may differ. “Traditional,” though, perpetuates the myth that public schools in the U.S. have remained largely unchanged throughout their history. In fact, there may be very little “traditional” about any given local or charter or private school. “In person” emphasizes the student learning experience.

In other words, as Information scholar Roderic Crooks (2018) explains in relation to his study of the distribution of tablets at a charter school in Los Angeles, “The important questions to explore ... center on what kinds of costs and benefits are associated with a particular infrastructure and to whom these costs and benefits accrue” (20). In the case of virtual schools, what stories lie behind the numbers? How and why do these outcomes arise? And if virtual schools represent a problem – a potentially urgent one, given their growth especially in the aftermath of the initial response to COVID-19 – what should be done to change their trajectory?

This dissertation attempts to provide some answers, necessarily partial, to these questions. To do this, I set out to talk to a wide range of participants involved with virtual schools and to observe some of both the day-to-day workings of these organizations and how they were presented and interpreted in the broader landscape of American K-12 education. I eventually spoke to over 50 teachers, staff, parents, and students at 10 virtual schools in 7 states. I attended school meetings, watched classes, sat in lunchrooms, offices, and hallways, and went to informational sessions and industry conferences, both in-person and online. I interviewed experts in local school governance, homeschooling, and educational cybersecurity. There were many areas of virtual schooling I wanted to learn more about that remained elusive during my data collection process. But through these discussions and activities, I noticed patterns that I believe provide deeper insights into not just the shape and role of schooling, but also the transformation of work and the possibilities and challenges of increasing reliance on digital systems and quantitative measures throughout U.S. society.

An Overview - Straw into Gold

Like many classic tales, our story begins with a flicker of hope in a time of darkness and a ragtag band of misfits who join together to try to build something new that will avoid the problems of the dominant system. As is often the case, this “new” solution is a blend of old ideas reanimated and shifted in the face of emerging technologies. But there’s a catch not always captured in fantasy myths – the dominant system is itself long at war, acting at cross-purposes and vying for different goals. Thus, those disenchanted with or disenfranchised by the status-quo make up two quite opposite groups, brought together by shared enmity and desire to advance their purposes, though those may be at odds with one another. The two groups blur and determining which is which becomes a matter of perspective. The power of the new offering is that it promises freedom to both, offering to work as shield, providing protection from the dominant demands, and nexus of exchange, spinning varied forms of straw (diverse life ways) into gold, which people can use to support themselves. The owner of the magic spinning wheels takes a cut. Everyone is happy. Except some of the spinsters start to worry about the some of the straw they’re seeing. While there’s plenty of glowing grasses, some of it looks a bit too much like human hair. Some of it even resembles human ligaments and bones. Are they disposing of evidence of a crime? And those grasses, which they used to get paid to mow, now showing up at their doorsteps – is there a creature out there who simply rejoices in cutting? Or is someone adding that backbreaking work to their own, because their discretion leaves their garden growing stronger, avoids carelessly chopping down precious plants hidden among the weeds? All along, critics have been shouting that the new system is a hoax. The gold is fake. The needle on the wheel is poisoned. But those precious plants now preserved – are they worth the added labor? The gristly traces of bones?

The Role of Schooling in U.S. Society

Before diving into the realities of virtual schools, let us first step back and reflect on the function of schools at large in the American context, which set the stage for their online counterparts. Schools, particularly public elementary and secondary schools, “are burdened with conflicting goals” (Lubienski and Lubienski 2013). Educational historian David Labaree (1997) identifies these as “democratic equality (schools should focus on preparing citizens), social efficiency (they should focus on training workers), and social mobility (they should prepare individuals to compete for social positions)” (39). While particular aims have been more or less prominent throughout the history of American education and influenced the primary organization of public schools, these often opposing approaches also co-exist, with “different interest groups competing for dominance over the curriculum and, at different times, achieving some measure of control, depending on local as well as general social conditions” (Kliebard 2004, 7). Throughout most of the nineteenth century, when schooling as a formal endeavor was first spreading across the nation, many school leaders “considered training the students to think more important than preparing them for any particular career” (Gyure 2011, 3). This shifted as Progressive education reformers from the middle of the nineteenth century through to the early twentieth emphasized the role of schools in promoting social cohesion, democratic citizenship, and national improvement (Dewey 1916; Tyack and Cuban 1995; Kliebard 2004). These Progressives competed with advocates of the “social efficiency” model, who backed differentiated instruction based on the expected “role [students] would play as adult members of the social order” (Kliebard 2004, 76–77). Both groups to some extent saw their mission as extending beyond the particulars of the curriculum to include social and cultural values and norms. While the attainment of individual economic stability has been frequently invoked as the reason for students to attend school, simultaneous attention to schooling’s contribution to the common good, in whatever form, has never disappeared completely from public discourse (Gyure 2011; Rose 2014; Labaree 1997). The 1980s saw a further intensification in the U.S. of the positioning of schools as vital to national economic strength through the preparation of a skilled workforce (Tyack and Cuban 1995; Gyure 2011; Sims 2017). At the same time, as a means to promote human development, education is considered a fundamental human right (UN General Assembly 1948). Among enslaved people in the United States, education “represented a reclamation of human dignity” (Morris 2015, 5). Over the years they have developed in this country, schools have come to be understood as responsible for this wide range of outcomes, even when these are directly at odds. The legacies of these contradictory philosophies continue to structure foundational components of public education.

One particularly alluring and enduring idea regarding the purpose of schools, attributed to common schools founder Horace Mann, is that educational institutions could act as “the great equalizer” to overcome class distinctions (P. Carter and Welner 2013; Rose 2014). While generations of scholars have argued that schools have not adequately performed this role, the concept nonetheless remains a driving force behind school development and reform, symbolizing the ideal of what schools could accomplish. Schools are here asked to overcome disparities created or ill-addressed by all other sectors of society. As Carter and Welner (2013) summarize, decades of political efforts have dismantled other avenues to provide wide-spread economic security, dignity, and well-being in favor of positioning “formal education as a panacea” to solve

all social problems (7).

Despite this oft-mentioned aim of schooling as a counter to social hierarchy, since the 1970s, “social reproduction” theorists have argued that schools are engines of inequality (Lubienski and Lubienski 2013). In this paradigm, schools bolster existing social hierarchies, contributing to the continued advancement and elevation of some and the marginalization of others both within schools, where children are treated differently and told different narratives about their identities and belonging (Calarco 2018; Oakes 2005; Sims 2017; Willis 1981; Lubienski and Lubienski 2013; Rafalow 2021) and between schools, as students are officially or informally segregated and then subjected to differential resources and ideological goals (Darling-Hammond 2004; Rooks 2017; J. T. Scott 2009; Ladson-Billings 2013). Famously, educator and philosopher Paulo Freire (2014) argued that schools are largely designed with the aim of “indoctrinating [students] to adapt to the world of oppression” (78) by preventing critical thought. Many have used ethnographic methods to understand *how* the process of social reproduction occurs – both through inter-personal interactions and through structural and technical arrangements. These investigations repeatedly illustrate that schools not only transmit established ideas and enact standard behaviors along lines of race, class, gender, and disability, but also contribute to the production or creation of those categories within the social world (Hernández 2016; McDermott 1993). Thus efforts to address “achievement gaps,” particularly between Black and White children, consistently fail to recognize “opportunity gaps” in the ways schools are resourced and managed that shape how students perform (P. Carter and Welner 2013).

Yet over-emphasis on the ways schools can act as mechanisms of harm for minoritized⁷ students and others who face oppressive social conditions can obscure the substantial and demonstrated benefits of schooling for individuals, communities, societies, and the broader world. Rose (2014) argues that myopic attention to schooling as a means to secure economic advantage, in particular, ignores the critical contributions of schools to holistic personal growth and fulfillment and “pluralistic democracy.” He emphasizes the deep joy and contentment that can be nurtured in schools, and the power of teaching to structure opportunities for learning that may be inaccessible in other areas of everyday life. Walker (1993) traces the history of Black teachers’ practices of care in segregated schools, working to protect and nurture children despite a virulently hostile social climate. Ewing (2018) shows how even “failing” schools are sources of love, family, and community support and memory for Black families in long-segregated neighborhoods in Chicago. Sociologist Tressie McMillan Cottom (2017) makes the case that as economic pressures are increasingly placed on precarious individuals to make themselves desirable in the workforce, people make strategic choices to pursue higher educational credentials at for-profit and sometimes predatory institutions that respond to their immediate needs (although these students are sometimes then cheated out of their money and effort by the nature of the tiered educational system. Crooks (2018) writes ambivalently about how a project

⁷ There is robust debate about the best terminology for broadly referring to groups of people who are structurally, in Spade’s (2013) terms, “on the losing end of the distribution of life chances” by administrative systems and other arbiters of power and resources. Like Crooks (2018), in this dissertation I follow queer theorist José Esteban Muñoz in using the term “minoritized” when more specific terms are impractical because, as Crooks explains, “As opposed to terms such as underrepresented, minority, or underserved, “minoritized” draws attention to the historical specificity of American racial and sexual hierarchy and the multiplicity of identities ... I use this term as a way to point to social location relative to the persistent white supremacy, economic precarity, heteronormativity, and misogyny of contemporary American life” (20).

intended to provide all students in one LA charter school with tablets exploited the unpaid labor of some students in order to function, but also provided those students with experience and a sense of purpose that they found often fulfilling and motivating. Gray (2009) provides an instructive case study of the ways that LGBTQ students and their allies in rural Kentucky both faced resistance and hostility in attempting to form a Gay-Straight Alliance in their school, but also relied upon that environment in order to develop community support. And while some efforts have focused primarily on out of school learning opportunities because of the limitations and challenges within school environments (Ito et al. 2013), schools remain pivotal sites in young people's lives, for better and for worse, and are thus worth continued attention.

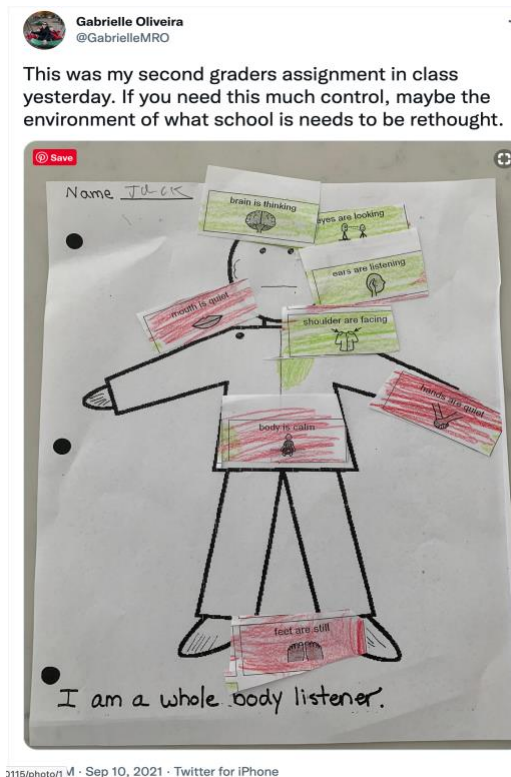
Standardization and Control

Despite the many divergent goals and experiences of schooling, there exists a “broader social imaginary that school is a stultifying institution virtually unchanged for well over one hundred years” (Ames 2019, 36). This perception has its basis, in part, in descriptions of schooling that emphasize a rigid and hierarchical environment in an attempt to unsettle utopian claims about schools as forces of unmitigated good. In his classic ethnography *Learning to Labor*, British social scientist Paul Willis (1981) writes, “school is a kind of totalitarian regime. There is relatively little direct coercion or oppression, but an enormous constriction of the range of moral possibilities,” (66). Willis explains how students are “subordinated” and restrained by the material and organizational structure of the school:

Sitting in tight ranked desks in front of the larger teacher's desk; deprived of private space themselves but outside nervously knocking the forbidden staff room door ...surrounded by locked up or out of bounds rooms, gyms, and equipment cupboards; cleared out of school at break with no quarter given even in the unprivate toilets...all of these things help to determine a certain orientation to the physical environment and behind that to a certain kind of social organisation. They speak to the whole *position* of the student. (67-68)

Willis's framing reflects major features that a wide variety of critics object to in dominant forms of contemporary schooling – the immense control over students, the narrow range of autonomy allowed to them, and the strict and homogenous patterns that students are expected to follow. Some see in this arrangement an appropriate atmosphere for absorbing social norms and practicing the requirements of adult life for both individual and collective benefit. The architecture and regulations of school life contribute to what education scholars call the “hidden curriculum,” a set of “informal messages about personal conduct” that “shapes attitudes and behaviors for the working world outside school,” (Greene 2021, 124). While the hidden curriculum will change based on the accepted norms of the time and place, the idea is that by priming students to see themselves in a particular way and act accordingly, they will be well-prepared for adult society. Schools discipline students, implicitly and explicitly, to perform characteristics associated with dominant cultural values under the premise that this will help them be successful in a society that rewards those ways of being, known as cultural capital (Bourdieu 1973). Yet others interpret these conditions as violent suppression of diversity and creativity which crush the human spirit in an active effort to strangle challenges to the status quo.

For example, Gabriella Oliveira recently tweeted⁸ a photo of a child's assignment that listed expected bodily postures and mandated being physically still, silent, and oriented towards the teacher as appropriate classroom behavior with a focus on listening, placing authority solely with the educator. These kinds of practices contribute to the power of the anti-school social imaginary of "school as factory," which "might prepare children for being factory workers-cogs in a capitalist machine-or it might employ factory-like methods in education (or both)," (Ames 2019, 36).



1115/photo/1 M · Sep 10, 2021 · Twitter for iPhone

The situation can be even worse for those who are the targets of structural racism and other forms of pervasive social oppression. While Ferguson (2000) emphasizes that multiple areas of the school where she observed are filled with student connections, creativity, and attempts at exerting autonomy, she writes of the room the students call "the Jailhouse," a space for detention populated largely by African American boys, as:

The room is stuffy, airless, and we are all unceasingly in each other's presence...there is never a time or place for escaping surveillance through trips to the bathroom. There is no sociability, no relief from the boredom of schoolwork. The clichéd phrase 'Time seems to have stopped,' becomes fresh with new meaning. (37)

For those accused of violating classroom regulations, control is increased, and permissible variety is further curtailed. As research on the criminalization of Black, Latinx, and Indigenous students makes clear, students who repeatedly come into contact with school disciplinary systems can find these restrictions escalating to the level of full-scale incarceration. Black students are disproportionately accused of disciplinary infractions, including under vague

⁸ <https://twitter.com/GabrielleMRO/status/1436327654068740115>

characterizations such as “defiance.” Morris (2015) points out that many incidents where Black girls are perceived by school officials as having an “attitude” that gets them into trouble are “provoked by incidents of disrespect” by teachers and peers (86). She argues that educators are often unfamiliar with or unwilling to consider patterns of systemic violence in these girls’ lives that contribute to their reactions in such situations. Here the supposedly universal standard of behavior, the rules and norms imposed on students, fail to take into account their diverse lived realities, and students pay the price.

Of course, schools are not factories. As Ames (2019) documents, such a popular and misleading frame “erases the skill of teachers, the humanity of students, and the agency of all involved behind the dystopian connotations of automation and assembly lines” (36). EdTech critic Audrey Watters (2015) emphasizes that despite some efforts towards standardization, control of schooling in the U.S. is “largely decentralized,” and that in practice, “they don’t really look like and they really don’t work like factories.” Watters and historian Sherman Dorn (2018) have debunked claims that the format of schools is a product of the “industrial era” which has remained largely unchanged for centuries. These scholars, along with experts in education reform David Tyack and Larry Cuban (1995), make clear that reformers often paint schools with such a negative connotation in order to create an opening for them to offer up convenient fixes to the supposed industrial approach. Further, even factories do not completely foreclose opportunities for creativity, agency, and variation. As anthropologist Lucy Suchman (2006) argues, all human action involves using the available resources at hand in ways that can never be fully specified in advance or in retrospect. No matter how standardized a system is, as long as it involves is not completely self-contained, it can never totally control behavior or squelch difference.

Suggestions of standardization in school form further obscure the enormous differentials between schools’ resources and the conditions in which they operate. *Closing the Opportunity Gap* highlights the absurdity of expecting equivalent results in student “achievement” given the vastly unequal barriers and opportunities afforded to students (P. Carter and Welner 2013). This is true in terms of wealth and the privileges and protections it affords – toxicity of school buildings, student teacher ratio, availability of easy and quick transportation, amenities and activities – and in who is framed as the rightful occupant of the scholarly position, whose language and culture is reflected and valued, who teachers are nice to, who they let bend the rules and receive second chances, who is more likely to have experienced teachers and institutions impervious to closure. In the face of these structural differences, any equivalence in results should be perceived as a shocking accomplishment indicative of massive effort and ingenuity of behalf of those who at every stage encountered additional hurdles, not the expected outcome. On top of these cogent critiques, there is the obvious truth that public schools are not for-profit enterprises - however much they participate in the economy through privatization of services, they still exist outside the marketplace.

Yet despite all these convincing reasons to approach the school – factory equivalence with extreme skepticism, there remains a kernel of truth in the analogy that may be generative. Schools have established certain scalable routines and structures in service of producing particular outcomes. These outcomes encompass quantified metrics like test scores and styles of dress, mannerisms, and ways of speaking. As mentioned previously, sociologists have long

argued that the unspoken rationale for many dominant practices in schooling is to re-produce social categories, for example of docility and deviance (c.f. Willis). But it is overall quantifiable metrics that are required of schools, and upon which both students and schools are explicitly evaluated. The “better” a school scores on these measures, the more funding they receive. This data is their inventory, the product they produce in exchange for legitimacy and funds. Under this arrangement, those who want or need access to schools are often required to play by their rules. Virtual schools, however, offer to break this yoking of process and product. They are not alone in experimenting with this alternate model. To understand the alternative they offer, I will momentarily turn to a rather unexpected source – anthropologist Anna Lowenhaupt Tsing’s analysis of the transnational journeys of matsutake mushrooms.

Schools at the End of the World: Salvage Accumulation of Data

“We also desire and imagine worlds that break with the present, in which the conditions of production, including caring labor, are no longer elided but are instead brought to the center and recognized as necessary to all livable lives”

- Crosby and Jakobsen, “Disability, Debility, and Caring Queerly,” 78

In her book *The Mushroom at the End of the World*, Tsing (2015) theorizes the matsutake mushroom market as exemplary of “salvage accumulation” – “the process through which lead firms amass capital without controlling the conditions under which commodities are produced” (63). She explains that matsutakes thrive in the aftermath of human intervention – they grow best not in untouched, old-growth ecosystems, but in forests that were previously clear-cut, plantations which valued monoculture in the quest to squeeze the highest value out of the woods. Profits from these forests were not sustainable, as a lack of ecological diversity often damaged the soil and removed other elements that, as James Scott (1998) writes, “might have been useful to the population but whose value could not be converted into fiscal receipts” (12). But when these projects of rigid standardization and scalability were abandoned, they provided ideal conditions for the matsutake to flourish. Tsing traces significant variation in how this pattern has played out across the U.S., China, Finland, and Japan, depending on their unique histories. But each location was left with “industrial ruins” where matsutake mushrooms grow and can then be harvested for sale on the luxury market. This method of commodity production varies from the model of the factory and large-scale agriculture because “the requirement to control labor and raw materials recedes” (64). The harvest of the mushroom can occur outside of standard capitalist production, even in the realm of a gift economy. This format is not unique to mushroom harvesting – in jarring contrast, Tsing provides the example of Walmart, “able to ignore the labor and environmental conditions through which its products are made” (64). The process of creating inventory can be whimsical or brutal, as long as the product can be accepted as legible in the marketplace. Or as Tsing puts it, “production does not have to be scalable as long as elites are able to regularize their account books” (42).

Virtual schools make an offer to prospective students, families, and teachers that they will exert less control over the conditions of labor while producing the same kind of data – the same inventory. Of course, as Tsing (2015) puts it, “not just any translation can be accepted ...An army of technicians and managers stand by to remove offending parts...it is not a wild profusion. Some commitments are sustained” (133). Not all mushrooms can be sold as matsutakes, and not all forms

of learning can be made legible as acceptable education data. Teachers and students will still have to perform a limited set of tasks – take tests, write papers, give grades, lecture, etc. These practices and structures are determined by the long-standing forms of schools, they arise from that history of relative standardization. But the surface area of control is minimized. Spend a day or six months working on your chemistry course, do it from your bedroom in pajamas or in the bleachers of a stadium on your breaks. For many involved with virtual schools, their allure lies in the ability to participate in these systems of education and employment without having to relinquish bodily and spiritual autonomy.

Virtual schools promise to provide the safety, autonomy, and access that people find lacking in traditional schools for a variety of reasons. Providers of virtual schooling use the affordances of digital technology to translate the diverse conditions of work into commensurable data that can be exchanged for income or credentials, operating a form of “salvage accumulation.” This hands-off approach allows for a wider array of behaviors under the rubric of “schooling” than is generally accepted in brick-and-mortar institutions, breaking the “totalitarian regime” Willis describes. Because the institutional aims of schooling are diverse and often contradictory, those looking to escape those efforts also exhibit the “riotous diversity of non scalability,” as Tsing names it (64). People use their freedom in different ways. Here, virtual schools offload the traditional responsibilities of schools onto individual students and their families. Yet this system is still largely supported by the relational labor of teachers who act as intermediaries, working with parents and students to create authentic caring connections which serve to produce desired data outputs. This labor is precarious because it rests upon the unpaid contributions of students’ families and tenuous and differentially available bonds of trust, has limited legibility to the state system of educational accountability, and often lacks the resources to successfully deliver the kind of data outputs required for accreditation and profit. While some schools invest in relational and pedagogical supports, recuperating institutional responsibility, others turn to enforcement processes to satisfy the metrics without hurting the bottom line. This can undermine the benefits promised by the more autonomous approach.

There is a long history of using standardized approaches to attempt to counter legacies of targeted violence. Burrell and Fourcade (2021) write,

Historical accounts of the rise of actuarial techniques thus emphasize progressive efforts to both demand accountability from institutions and redress histories of bias, favoritism, and exclusion. The mechanics of modern algorithms offered a promise of transparency and of equal, dispassionate treatment – behind the veil of ignorance about prohibited demographic characteristics such as race or gender (11).

Virtual schools capitalize on this promise of equality by narrowing the field of view of characteristics considered or encountered. But it is hard to shake off inequalities by bracketing them away. Their efforts at minimizing contact with intrusive systems are propped up by the labor of paid and unpaid workers, and the outcomes of these efforts remain skewed by unaddressed variation in the conditions of production.

Still, showing up in virtual school can alleviate pressures for bodily conformity. Drawing on A. Aneesh’s ethnography of Indian call centers, Kalindi Vora (2015) argues, “The transformation of

the agent into her data form requires the suppression of her real form and yet results in the enhancement of the real form's life chances" (53). The call center worker, she points out, is required to distance themselves from local lifeworlds, becoming out of sync with the rhythms of daily life due to working nights to match U.S. or U.K. schedules and being required to adopt Western accents, mannerisms, and cultural references while hiding their identities. Winifred Poster (2019) argues that workers in global call centers must perform these alternate identities not only in order to elicit engagement or payment, but to avoid racist or xenophobic harassment. The promise of virtual schools here is to offer access to improved life chances *without* requiring the suppression of one's "real form," but also without accepting that form in all its holistic possibilities. As Natalie (E10), a counselor at Eagle Academy, put it,

there are way more non-traditional students than there have ever been in the past ... I feel like we can be more trauma-informed by understanding that everyone is different. We don't necessarily—we don't have a right to their story, and that's okay, but we can be accessible to everyone, that we don't have to know their individual situation to be able to offer them what's going to work for them.

Virtual schools offer to translate the labor of students and teachers into the required data without demanding they adapt to fit the imagined norm, without having to share their stories, but also without actually changing what that norm looks like. As critical design scholar Aimi Hamraie (2017) argues, "There is another way to understand flexibility, however: as an instrument of standardization, normalization, and fit" (61). Come as you are, they say. We'll take care of the rest.

For those who run virtual schools, the benefit of this arrangement is that they are no longer obligated to provide much of the infrastructure needed to control the conditions of production. For example, building costs are vastly reduced or eliminated. There is no need to allocate funds to custodians, food service staff, or security guards. Insurance costs and payments for extra-curricular activities are minimized. Yet public virtual schools, whether district or charter, receive funding based on the same per-pupil allocation as in-person schools (Molnar et al. 2021). Because they produce commensurable data – having enrolled students – public virtual schools get equivalent funding from the state. This is true even when teacher – student ratios are much higher in virtual school settings (Barbour, Miron, and Huerta 2017). While some schools, particularly non-profits independent of large corporations, invest funding into operations, others funnel excess money to investors and corporate leaders, who can make large sums from taxpayer dollars (Saul 2011).

Unlike the matsutake market, however, where mushroom pickers bear the responsibility for providing their own tools, virtual schools do offer supports and materials in service of their shared goal, not just the apparatus of exchange. They still have to coordinate the hiring of teachers and the provision of curriculum. Many also employ school counselors and orchestrate fieldtrips. Virtual schools are not yet platform marketplaces like Amazon or Uber or Spotify, matching consumers (students) to workers (teachers) and content (curriculum), but they take a step in that direction, exhibiting a form of "salvage accumulation." As Schneider and Berkshire (2020) document, efforts to profit from the privatization of schools ebb and flow, as regulators crack down the public gets wise to questionable educational value. Yet the "dream of mining

profits from schools lives on,” resilient to critique (Schneider and Berkshire 2020, 80). Privatization remains buoyed by a steadfast campaign to cast business techniques as the answer to supposed government failures (Schneider and Berkshire 2020; Cuban 2005; Greene 2021). Lax regulation means that in some cases, virtual schools can strip their offerings to a bare minimum, relying on individual families to fill the gap. They extract value out of diverse conditions of production, and in particular those conditions that exist only because of the collapse of prior, controlled and standardized forms. Virtual schools accumulate wealth by translating these unique experiences, developed in large part by uncompensated outside actors, into commensurable products. The exact location of accumulation here is blurred by virtual schools’ multiple organizational forms. Sometimes, they are actual capitalist entities, for profit charter management organizations or software/platform development companies. Sometimes, there is no actual accumulation of economic profit because the supply chain is run entirely by the state or non-profit entities. But the process of alienation, translation, and commensuration Tsing describes occurs nonetheless.

Salvage accumulation relies on sloughing off everything that contributed to a product before it entered the marketplace. A similar process of abstraction is core to the creation of data that represents lived experience, excluding for analytical purposes much of the detail and complexity of a given situation (Hayles 1999; Porter 1996; J. C. Scott 1998). These simplifications are necessary elements of understanding and decision-making, particularly at scale. When decisionmakers try to use these abstractions as the basis for embodied action, they can restrict individual agency and come into conflict with the lived reality of a situation. For example, critical data scholar Karen Levy (2015) explores how truck drivers clashed with new management techniques that used electronic monitoring to direct drivers’ actions without taking into consideration local circumstances like weather. But as Roderic Crooks (2019) has noted, when data is evaluated based on assumptions about the behavior behind it, this abstraction also creates space for what he has termed “interpretive resistance.” The very gaps between complex reality and simplified data can be protective to those subject to control, by shifting the site of surveillance from the conditions of production to narrow outputs. In this process, Crooks finds, students and educators can find a reprieve from demands imposed on them by external evaluators. This is also what Tsing finds with mushroom pickers – outside the seasonal and environmental constraints, and some (often ignored) limits on their methods by government regulations, their movements are their own. They aren’t paid based on their hours but on their inventory.

For those looking for a way out of school, or out of those parts they dislike, without losing what they see as its primary benefits – credentials, income, meaningful work, curriculum, instruction – virtual schools promise a way to make abstraction work for them. While digital platforms and technologies have been frequently identified as sites of increased surveillance and expanded control, in the case of virtual schools, they at least provide the promise of reduced visibility and coercive power. Of course, as Tsing notes in the case of Walmart and Levy in the case of truckers, as is often true in the gig economy, this can go the other way – workers having to put in much more than 40hrs/week in order to make a livable wage. Whether virtual schools live up to their promises – whether their form of salvage accumulation looks more like the matsutake mushroom market or a Walmart – remains to be seen.

Less visibility, less control, can mean less violence and more individual autonomy, but it also means schools are less able to enact their democratic and redistributive goals. Some families may be better able to avoid harmful interventions – restrictive environments, removal of children from loving homes. But as advocates like the Coalition for Responsible Homeschooling Education caution, others may take advantage of this distance to isolate, control, and hurt their children. Some families may avoid or mitigate racist or homophobic behavior, while others withdraw from multi-racial or multi-faith spaces or seek to avoid the ‘contaminating’ influence of those with diverse gender and sexual identities and orientations and attempt to carve out instead a segregated bubble. The outcome depends largely on the family, the home, and their community – the state can no longer be as active in shaping what happens. But those enrolled in virtual schools, unlike some of those traditionally homeschooled, keep a connection outside of their community – in the case of public schools, they maintain a tie to the state. Schools have an opportunity there to continue to try to enact their goals through that narrow thread. If that thread snaps, they lose out on the option entirely. This is a reason to pay careful attention to participant’s motivations and consider what methods will best move towards socially desirable goals.

EdTech, the Digital Divide, and the Gig Economy – Where Do Virtual Schools Fit In?

Like schooling, technology has a long history of being vaunted as a silver bullet to overcome social inequality, and a parallel reality that indicates a much more nuanced interplay.⁹ From Karl Marx’s foundational materialism, asserting that the proletariat must control the means of production for the creation of an egalitarian society, to Virginia Eubanks’ (2018) exploration of how automated systems are being deployed to extend control and degradation of poor people by the state, the issue of who develops and manages technology, and to what ends, has remained a defining social concern. While increases in consumer access to digital technologies have been accompanied by discrepancies in adoption along socio-economic lines, prompting a focus for those concerned with the social good on providing greater access to new devices and connectivity, Hargittai and Hsieh (2013), alongside many others, helpfully re-direct this conversation away from *access*, or even more fundamentally control, and towards differentiated “online experiences and abilities”. Greene (2021) argues the digital divide framework, which emphasizes binary “have” and “have nots” in the digital economy, was developed as part of an overall shift towards neoliberalism, where the activist state reshapes citizenship to match market forms. It defines access as being able to compete in the neoliberal economy, relying on privatized providers and going against older mandates of universal service. While community centers and libraries were positioned as temporary stopgaps to invest in equity, conservative control eliminated these as bad investments. This framework goes hand in hand with the reshaping of education as a competitive project of developing human capital. Within this context, virtual schools can be positioned as a means of providing educational access, expanding opportunity for those who for whatever reason struggle to participate in the traditional forms of schooling. This positioning can elide discussion about the forms such access takes and what kind of tangible benefits it does or does not grant.

⁹ Although as American Studies scholar Leo Marx (2010) has noted, what is meant by technology has not only shifted but been actively adjusted with cultural and political ramifications.

There has been continuous enthusiasm for the idea that technology can improve all aspects of the educational experience, making it more interactive, personalized, connected, egalitarian, accessible, fun, and efficient. Yet projects attempting to implement such changes have frequently failed to achieve such lofty aims. Early in the era of personal computing, Cuban (2003) found that investments in classroom technology were bolstered by idealistic hopes of transforming the learning experience, but that the reality was much more mundane, prompting few changes in instruction or classroom organization. Ames (2019) and Crooks (2016) document a similar pattern in the distribution of digital devices to children for educational purposes. With the One Laptop Per Child project and the effort to distribute iPads at a charter school in Los Angeles chronicled by Ames and Crooks, respectively, technology was framed as a way to obliterate the digital divide and academic disparities along the lines of race, class, and nationality, targeting students whose educational institutions and prospects were seen as not only deficient, but below the norm. But the new devices either went largely unused, in part because they lacked an infrastructure to support maintenance and repair, or were incorporated into existing practices of entertainment and schoolwork. Sims (2017) profiles a school that started with a mission to provide an innovative education structured around creativity, problem-solving, and collaboration to a diverse group of students using gaming and digital technology as a model. He shows that while the school made claims about equity as central to its promise, it actively participated in figuring certain students – Black, Latinx, working class – as deviant, while centering affluent white students’ behaviors and personalities.

In fact, empirical work has consistently demonstrated that access to technology in an educational context does not automatically produce any particular beneficial outcomes (Crooks 2018; Cuban 2003; Rafalow 2018; Warschauer and Ames 2010). Of particular relevance to this study, several scholars have analyzed the implications of Massive Open Online Courses, which aim to provide “access” at scale to elite higher education materials through providing digital video lectures and curriculum materials, sometimes accompanied by assignments and discussion opportunities. While MOOCs have potential to foster cultural and social capital (Maitland and Obeysekare 2015), they also are built upon assumptions of a “roaming autodidact” user “almost always conceived as western, white, educated and male” (McMillan Cottom 2016). As Reich and Ito document in their study of inequality and learning technologies, “free online learning materials disproportionately benefit the affluent and highly educated” (Reich and Ito 2017). Worse, Ames (2019) notes that projects highlighting flashy “charismatic technologies” regularly not only fall short of their radical goals for educational improvement, but divert resources from more established measures like educator training. Driven by strong social beliefs, the adoption of emerging technologies in educational contexts is continuously revived as a potential silver bullet, despite repeated harsh evidence against its effectiveness at large-scale improvement (Sims 2017).

Instead, technology can provide socio-economic and cultural benefits or harms in part dependent on skill, patterns of use, and surrounding material, ideological, and policy contexts. Burrell (2018) has recently further extended the digital divide paradigm by drawing on Science and Technology Studies scholarship on materiality, infrastructure, maintenance and repair to argue for “drawing attention to connecting infrastructures instead of the end points of access.” There are a number of considerations discussed in literature focused on the digital divide that are relevant to virtual schools. In particular, barriers to connectivity and supportive environments appear likely to matter a great deal in terms of whether virtual schooling is an option for a quality

educational experience for students. This echoes and complements findings that school choice policies generally perpetuate social stratification and limit parent empowerment when they do not provide active supports to overcome barriers to access such as transportation (J. Scott and Wells 2013; Pattillo 2015).

Virtual schools do make promises to address the needs of students marginalized by the common forms of in-person schooling. As it stands, they have often been promoted for particular populations including rural students, students who experience bullying, students with disabilities, and students with professional, familial, or creative obligations. K12 Inc., one of the largest charter management organizations of virtual schools across the country, emphasizes that they serve, “Advanced Learners; College and Career Minded Students; Homeschoolers; Athletes, Performers, Military Families, and Students Needing Flexibility; Students Needing More Support.”¹⁰ This construction encompasses almost all students, in line with K12’s assertion that their program “makes the most of each child’s unique brilliance.”

These assertions build on a combination of the established narratives of personalized learning marketed by corporate reform advocates and homeschooling families and their supporters. Scholars argue that data-driven personalized learning technologies leverage the stated goals of modern workforce preparation and educational customization to cede decision-making to corporate actors and standardized metrics, removing a focus on either the public good or social context, utilizing grand visions while remaining light on specifics (Bulger 2016; Lupton and Williamson 2017; Roberts-Mahoney, Means, and Garrison 2016; Zeide 2017). Homeschoolers, meanwhile, largely believe that “children have enormous potential for distinctive accomplishments and that standardized ways of educating children temper or even squelch this potential” (Stevens 2003). Homeschooling families often see providing for their children’s educational needs as part of a larger mandate towards good parenthood and specifically gendered maternal roles (Lois 2013). Williamson (2017) argues that Silicon Valley based EdTech advocates have harnessed both traditional Progressive critiques of “schools as overly constrictive” (271) and contemporary obsession with “rigorous scientific monitoring of [school] performance” through pervasive data collection (276) in their efforts to craft schools structured by digital technology. By claiming to offer something for everyone, while simultaneously naming particular needs which in total can resonate with all families, virtual schools speak to established desires while broadening their viable population.

This is in spite of the fact that while many virtual schools employ some form of “data driven decision making,” they appear to maintain surprisingly few “big data” strategies (or perhaps, given the findings of prior scholars, not so surprising). The spread of virtual schools in this way may represent a return to and expansion of homeschooling, having brought these ideologies into the classroom, now itself exploded, providing an infusion of new blood for the apparatus of homeschooling communities. What’s new here, as documented by Rooks (2017) and Burch and Good (2014), is that this influx of new refugees from the traditional school system do not necessarily share the cultural assumptions of the homeschooling communities analyzed by Stevens and Apple (2006), but are instead pushed into virtual schooling through market segmentation and proliferation of school choice systems, similar to the forces described by McMillan Cottom (2017) and Pattillo (2015). While Apple (2006) documented that evangelical

10. <https://www.k12.com/k12-education/student-success.html>

Christians in particular use virtual schooling to “keep government and secular influences at a distance,” remaking the meaning of public schooling to fit their ideological goals, virtual schools are expanding their target populations and thus remaking the public-private interface through the institution of schooling more broadly. Shifts in the technical arrangement of systems can have broad and unexpected social and policy effects, as Mulligan et al. (2003) illustrate in their work on how DRM restrictions run counter to established social norms inherited from prior media systems. Similarly, emerging models of virtual schooling that suggest a combination of personalized learning and distance learning may not align with how students, teachers, and parents have understood their relationship to schooling thus far and may offer new vulnerabilities and opportunities. While these discrepancies can pose new challenges for all involved community members, people may experience them differently depending on their social positioning and cultural expectations. I explore these themes throughout this dissertation.

Thus, despite the efforts of advocates to frame what they do in the terms of the charismatic disruptors, the veil is thin, and virtual schools are not accompanied by the fanfare of other projects in the space of education technology. Because of this, while my study in many ways aligns with the literature on what Sims calls “disruptive fixations,” it diverges somewhat in the limited “charisma” virtual schools deploy. Unlike the internet, computers, or ‘schools’ writ large, virtual schools are rarely framed as an unmitigated good, nor is access to them particularly skewed on the whole towards elite populations. At the same time, the general public, politicians, and even some scholars rarely distinguish the variety of factors at play when discussing virtual schools’ potential or proven track record. They are instead widely perceived as vultures. As one local activist put it in our interview, virtual schools were often seen to be “totally in it for the money.” Public school teachers protesting a proposed virtual school expansion into their district proclaimed at a school board meeting, “We know online charters have some of the worst reputation of any charters,” possibly drawing on a study by the usually charter-friendly Center for Research on Education Outcomes (CREDO) at Stanford University (Woodworth et al. 2015). While virtual schools may benefit from the afterglow of charismatic technologies, they are largely operating in a shadow realm. While big money interests continue to promise and promote disruptive technological solutions in the form of personalized learning, most virtual schools are not only much more quotidian in practice but are kept distinct from the shiny objects of interest in the public imagination. While criticism has come fast and sharp against projects associated with technology companies, these efforts continue to work to appeal to a privileged class. Virtual schools, on the other hand, are largely cast alongside for-profit colleges and payday loan companies – extracting value from the difficult situations people are placed in by interlocking systems of oppression.

Partially, this reaction to virtual schooling may be part of a broader “techlash” as public opinion against large technology companies has soured with increasing awareness of internet-enabled harms (Knight Foundation and Gallup, Inc. 2020). One area which has received substantial attention in relation to companies powered by digital platforms but that has been under-discussed in relation to virtual schooling is the influence of emerging technologies on labor. After all, teaching remains a flashpoint for long-standing debates not just about the proper form of pedagogy, but the role of government and the market in public life, worker autonomy and rights, and how the workforce should be segmented (Catté and Salfia 2018; Goldstein 2015; Grumet 1988; Shelton 2017). The growth in the virtual school sector is accompanied by an increasing

number of educators entering into the virtual school workforce, which has been followed by campaigns to collectively organize virtual school employees. The digitization of teaching in virtual schools thus creates a unique context that provides important lessons about the future of work. These questions around teachers' roles and experiences are inherently interlinked with those of students because schools are often framed as preparation for the workforce, and function to funnel students into particular kinds of jobs (Donato 1997; Lipman 2002). Students, teachers, and families are asked to perform new forms of labor in the aftermath of technological and organizational interventions (Crooks 2018; Grumet 1988; Lois 2013; Stevens 2003). This labor is inevitably classed, gendered, and racialized.

Prior work has shown that the introduction of new digital technologies into the workforce is often accompanied by shifts in existing power arrangements, primarily by further entrenching dominant positions but occasionally by offering new leverage for workers (Christin 2017; Crooks 2018; Levy 2015; Barocas and Levy 2016; Zuboff 1988). Some scholars, such as Irani and Silberman (2013) have focused on using digital tools to respond to these imbalances, attempts to reclaim collective structures that can go missing when work is distributed and workers are isolated from one another. Rosenblat et al. (2017), Levy and Barocas (2018), and Stark and Levy (2018) are representative of another trend, that of exploring how new digital arrangements enmesh customers in employee surveillance, management, and evaluation. Both teachers and students in virtual schools are subject to many of these pressures, while also maintaining salient differences that could suggest different patterns or could foreshadow a substantive change in the nature of teaching labor. Like the domestic workers discussed by Stark and Levy and by Ticona and Mateescu (2018), teaching is traditionally feminized care work that within the virtual school context 'takes place' to some extent within the home. Parents are thus in a position to become dual 'consumers' and 'managers,' similar to what Stark and Levy have observed with domestic workers and Rosenblat et al. have analyzed around consumer evaluations. Teaching in online schools also seems to frequently involve the delegation of certain tasks traditionally associated with the professional role to others, human or software, requiring negotiations between and with outside parties, as seen in Christin and Levy's studies. Yet teachers are largely in the public sector rather than private service, and as a labor group are generally college-educated and middle-class. Further, unlike most 'gig economy' workers, they maintain a shared institutional framework and established co-workers, with lots of variation in 'consumers' in terms of their positionality and affiliated socio-economic power. These variations make teachers in virtual schools an important group to study in order to understand variations in how the future of work may develop with increasing technological adoption and distributed workforces.

In the chapters that follow, I attempt to lay out in detail how virtual schools fit into this broader landscape. I discuss how the market for virtual schools is formed by continual disinvestment in public goods and supported by a logic of familial and individual responsibility, similar to trends within the gig economy. Yet I also emphasize the dedicated professional labor teachers perform in virtual schools, including their enhanced efforts to collaborate with students and families. I trace the limitations of various virtual school models, underscoring their inability to act as long-term solutions to broad social problems, while also recognizing their function as an incomplete pressure valve, both avoiding wider reform and pointing towards the systemic problems that give them life. I then turn to an investigation of how well-meaning accountability measures, paired with ongoing refusal by both governments and companies to provide adequate resources for

meeting educational goals, incentivize virtual schools to perpetuate and extend the status quo, while furthering harm for those most vulnerable to systemic violence. Finally, I place this research, which took place almost entirely before March 2020, into the context of the current COVID-19 pandemic, offering concrete takeaways for decisionmakers facing a world where virtual schooling plays an increasingly prominent role.

What to Expect – Chapter Outlines

Positioning: Qualitative Methods, Interpretive Epistemology, and Critical Approaches

I begin by laying out the knowledge commitments that structure my research and providing a detailed description of my overlapping data collection and analysis process. In the first stage of my research, I conducted a set of semi-structured interviews with stakeholders in virtual schools across the United States. In the second, I directly observed, both in person and remotely, the practices and artifacts involved with virtual schooling, including both the day-to-day efforts of attendance, teaching, supervision, and administration, via virtual school platforms and other channels, and the larger scale development, advocacy, and regulation that may take place in spaces such as legislative sessions and industry conventions. Part of that broad observation of the landscape of virtual schools included an ongoing exploration of media and policy documents discussing virtual schools as they arose throughout my data collection. I combined these different approaches and subsequent data sources towards the goal of triangulation (Ravitch and Mittenfelner 2016). This effort involved a continually emergent process to determine what a field-site should look like under such distributed conditions. As Burrell (2009) argues, contemporary ethnographic research, perhaps particularly that involving the digital, often by necessity requires development of a network rather than one bounded arena, and “it is clear that field site selection must become something that is done continually throughout the process of data gathering. It cannot be decided once and for all in the early stages” (184). I further explain the theoretical and experiential sources of my understanding and the limitations to my claims. Following anthropologist Nick Seaver (2017), I argue that some of the access challenges I faced constitute in themselves a means of participant observation, highlighting the opacity of distributed digital systems for those who participate in them and the necessarily fractured perspectives of all people co-constructing meaning about these systems and their lives overall.

Exit Strategies: The Promises of Virtual Schools

In this first empirical chapter, I provide my findings that K-12 virtual schools appeal to teachers, parents, and students with promises of safety, flexibility, and the opportunity to focus on pedagogy over other school aspects – motivations I refer to as *distancing*, *balancing*, and *focusing*. These rationales were diverse, but each was prompted by a need participants felt was unmet by the traditional organization of schooling. While virtual schools and their advocates frame these motivations in terms of individual choices and circumstances, I demonstrate that they are largely a response to structural failings and deliberate disinvestment in public education. Importantly, for the most part, virtual schools themselves do not directly offer solutions to the concerns that participants raise. Instead, they create structures within which participants can pursue their own goals, offloading certain responsibilities traditionally associated with the state or private employers onto individuals, families, and non-school communities. My analysis

reveals how these structural issues affect both dominant (white, middle class, Christian) and minoritized groups (albeit differently) in ways that make virtual schools attractive. Virtual schools use the affordances of digital technology to translate diverse working conditions and identity presentations that may be unacceptable within the traditional school structure into commensurable data that can be exchanged for income or credentials. The proliferation of digital alternatives removes pressure on traditional school and labor systems to address the concerns of those who leave, such as students with disabilities or teachers with family caretaking responsibilities, creating the temptation to use virtual schools as a way to exclude those who pose a “problem” to the traditional system. Yet, these schools also maintain a bridge between the state and those who might otherwise be completely disconnected from it, offering the possibility of intervention and engagement. In seeking to understand why people choose to be a part of virtual schools, I challenge critiques of remote learning that focus solely on academic performance or curricular formats, emphasizing the unmet needs virtual schools attempt to fulfill and the factors that contribute to their rising popularity.

[Precarious Networks of Care: Distributed Labor, Gender, and Vulnerability](#)

Having discussed the forces that make virtual schools a tenable option for participants and the repercussions of these trends, I turn to an examination of the experience of virtual school itself. Many digital platforms pit consumers or customers and service workers against one another, emphasizing relationships of suspicion and control, or conceal and render human work invisible, deskilling or removing human labor for profit and the charismatic allure of automation. Do these patterns hold in virtual schools? Despite platform mediation obscuring pre-existing avenues of connection, I find that not all virtual school structures are entirely premised on keeping people apart. In fact, many rely on the relational labor of teachers, facilitating ongoing connections in order to keep students engaged and producing appropriate data. I find that while digitization does often increase the sense of distance and opacity between teachers and students, interfering with teachers’ core ability to practice attunement, teachers develop strategies to recuperate visibility and practice caring responsiveness with students. These strategies entail proactively working to build relationships with students by foregrounding shared holistic humanity, eliciting student engagement, deputizing parents and other family members, making use of passively collected platform data and actively stitched together social information to interpret student experiences, and both sanctioned and unsanctioned in-person meetings that supplement digital communication. While these strategies have uneven success and rely on fragile and often unsustainable conditions, they nevertheless expand the reach of virtual schools. These findings suggest that default platform visibility – making students’ and teachers’ appearance and actions readily available to one another in an attempt to mimic in-person interactions – is not an inherent good for cultivating remote connections. Instead, supporting trust building practices while making visibility optional is likely to yield better results for school communities.

[Chasing Data: The Misalignment of Metrics and the Consequences of Trying to Measure Up](#)

Next, I explore the reality that metrics and methods traditionally used to assess schools and hold them accountable do not match the structure of most virtual schools. Some bad actors take advantage of this (e.g. through fraudulent enrollment, lax enforcement of instructional requirements, and teachers or students not working) but it also offers a haven to those who feel

boxed in by the strict enforcement of traditional school rules (e.g. through providing a space for more creative and family-oriented play or moving quickly through box-checking activities). I find that efforts to make virtual schools match traditional metrics may genuinely be a poor fit, and may incentivize harmful patterns that mimic or extend the forces that drove people out of traditional schools to begin with. But there is a genuine concern about what practices can allow for assessment and accountability and overall structure that supports students' wellbeing and is in the public interest. The relational practices of care described in the previous chapter provide one option – but they remain restricted by being resource intensive and may be disfavored by schools because of the power they confer to workers. I offer some reflections on what types of public policies might further collective democratic goals without diminishing the opportunities virtual schools provide.

Conclusion – Chaos and Crisis: Envisioning Virtual Schools in the Shadow of COVID-19

Finally, I look at how these findings have taken on new urgency in the aftermath of a COVID-19 induced mass transition to remote learning in 2020-2021 and the heated debates this shift engendered. While many forced converts to virtual schooling have decried remote learning as inherently sub-par or detrimental in their situation, others have found that it provides unexpected benefits in comparison to traditional schooling. This realization may swell the growth of virtual schools in a post-pandemic world, or of virtual components of traditional schools, escalating the need to carefully assess the above tensions. Based on my research, then, I propose potential areas of consideration for virtual schooling that attend to the needs of participants, support relational labor, adapt systems of evaluation, and promote distributed channels for coalitional organizing. I propose that building from this foundation in addressing emerging systems of virtual schooling will create spaces for communities to challenge the unequal distribution of life chances that has so long prevailed within the American education system.

Chapter 2: Positioning: Qualitative Methods, Interpretive Epistemology, and Critical Approaches

“the scavenger replicates the partiality of ordinary conditions of knowing.”
- Nick Seaver, “Algorithms as Culture”

Overview

This study involved two overlapping stages of data collection and analysis. In the first stage of my research, I conducted a set of semi-structured interviews with stakeholders in virtual schools across the United States. In the second, I directly observed, both in person and remotely, the practices and artifacts involved with virtual schooling, including both the day-to-day efforts of attendance, teaching, supervision, and administration, via virtual school platforms and other channels, and the larger scale development, advocacy, and regulation that may take place in spaces such as legislative sessions and industry conventions. Part of that broad observation of the landscape of virtual schools included an ongoing exploration of media and policy documents discussing virtual schools as they arose throughout my data collection. I combined these different approaches and subsequent data sources towards the goal of triangulation (Ravitch and Mittenfelner 2016). This effort involved a continually emergent process to determine what a field-site should look like under such distributed conditions, drawing on the insights of Burrell’s (2009) “The Field Site as Network.” I was guided in my theoretical and experiential understanding by interpretivist and critical scholars. This study was limited in part due to elements characteristic to virtual school platforms today: access interrupted or denied, overlapping and competing bureaucracies, my own anxiety, shifting relationships between schools and management organizations, and the initial difficulty of digitally connecting with strangers. I also encountered the emergence of a worldwide pandemic which both foreclosed certain fieldwork options and shifted the context of virtual schooling. While some participants found my research beneficial, providing “free therapy” or a space for their perspectives in the scholarly literature, the concerns of others led to further restrictions on my understanding. Following anthropologist Nick Seaver (2017), I argue that some of the challenges I faced constitute in themselves a means of participant observation, highlighting the opacity of distributed digital systems for those who participate in them and the necessarily fractured perspectives of all people co-constructing meaning about these systems and their lives overall.

Introduction

Through interviews with participants in virtual schools and observations of meetings, classes, news reports, and industry events, I have pieced together a story about the experiences of many people in U.S. K-12 virtual schools. This story is necessarily partial.

As I will discuss throughout this dissertation, virtual schools are intentionally opaque. Introducing barriers to visibility limits the amount of direct control the institution can exert on students, families, and teachers, and provides certain opportunities for flexibility – allowing people to do things in many different ways, under many different conditions, as long as they can

produce the same end product. Going virtual allows participants to remove themselves from much of the standards and surveillance of the traditional workplace.

Yet when trust is lacking, this opacity also poses the threat of misunderstanding. Most of the time, teachers don't know what students are doing, and administrators don't know what teachers are doing. As we will see, participants develop a variety of strategies for overcoming this opacity, with different accompanying risks.

One strategy is to call in an ethnographer.

"One of my biggest frustrations is that the board doesn't understand our school," Ruth (T16) said tersely to a room full of teachers at the Lake School's Professional Development Day. "I'm not just sitting and watching Netflix on the days that are virtual." Both that day and at a board meeting I attended, Ruth invited Board members to come to her house and watch her in action. She wanted them to learn what her daily process was like, to be evaluated by something other than an administrator dropping in to observe a synchronous course or her students' test scores. Ruth felt that lacking direct observation, assumptions were creeping into the minds of board members about how teachers were conducting themselves, and those mistaken assumptions were becoming the basis for policy choices. Because those policies conflicted with the lived realities of those they were meant to target, they generated hardships and conflict. Ruth believed that if Board members could see how hard she worked, how much she had to manage and how constantly she chipped away at it, they would change their approach. As far as I know, none of them took her up on it – but I did.

In this chapter, I am going to discuss both the theoretical underpinnings of my research and the particular events and practices that led to the production of this dissertation. This is a necessarily meta endeavor – the visibility or lack thereof of the conditions of knowledge production being a central theme of this work. By laying bare the sources of my understanding, I can be better held accountable for the claims I make, and so can other forces that shaped the nature of my access.

Epistemology and Approach

I embrace a social constructivist epistemology that, as Lave (1996) explains, rejects "a view of knowledge as a collection of real entities, located in heads, and of learning as a process of internalizing them" and instead embraces "a view of knowing and learning as engagement in changing processes of human activity" (12). I reject positivist claims of discovering objective truth in favor of interpretivist approaches that recognize "the centrality of meaning in all human life in all its aspects and a reflexivity on scientific practices related to meaning making and knowledge claims" (Yanow and Schwartz-Shea 2013, xiv). In the study of human behaviors, perceptions, and beliefs, understanding is co-constructed between participants and researchers, and is thus indelibly and inseparably influenced by the researcher's own lived experiences and frames of interpretation, which the researcher makes an ongoing effort to consider and present as part of their analysis.

From the beginning of this project, I aimed to take a critical approach to this research, attending to the processes of social stratification and the "the difference between policy rhetoric and the

practiced reality” (Young 1999, 685). As education policy scholar Michelle D. Young (1999) explains in her examination of how schools structure parental involvement, a critical approach entails going beyond identifying themes in qualitative data to specifically explore how power relations shape a given situation. Drawing on the work of queer theorists and activists, legal scholar Dean Spade (2013) has argued, “Marriage is fundamentally about inequality” (1042). The same could be said of U.S. school systems. Study after study – across disciplinary boundaries, geographies, and decades – have shown that while political and cultural discourse often turns to schools as potential engines for interrupting social hierarchies, they consistently enact social divisions and contribute to making some people safer, wealthier, and more secure while simultaneously making others more vulnerable, contributing to the production of racial and class stratification. Like marriage, schools can and do provide for many individuals (even those who are systematically harmed on a population level) extremely valuable protections, opportunities, and relationships. Yet as social institutions, they often contribute to, in Spade’s terms, the maldistribution of life chances. Unlike marriage, however, schools invest in communities rather than individuals – they have the potential to work as public goods that expand resources and challenge violent social hierarchies. These efforts co-exist within schooling. Thus, my research seeks to examine how the development of online and blended schools either works to “shore up and expand systems of violence and control” (Spade 2013, 1032) and/or “materially reduce violence or maldistribution” (1047) by exploring the experiences of teachers, students, and parents with these institutions.

Creswell (2014) contrasts the constructivist worldview with the “transformative” worldview arising from the belief that “the constructivist stance did not go far enough in advocating for an action agenda to help marginalized peoples” (9). He states that transformative research “contains an action agenda for reform” and draws on Mertens in explaining that “the research focuses on inequities based on gender, race, ethnicity, disability, sexual orientation, and socioeconomic class that result in asymmetric power relationships.” While my work is motivated by concerns with inequality, I find the framing of research as “critical” less prescriptive than the transformative approach, as it refuses to understand concerns of inequality or marginalization as somehow divorced from broader concerns about the creation of power and subjectivity. In other words, marginalization is not naturally occurring and the power relationships that produce differences in life chances cannot be separated from more general constructions of subjectivity and society. Spade (2013) notes that, “In analyzing purportedly neutral systems to reveal their targeted violence, critics often expose continuities of violence where dominant narratives have declared key historical breaks.” Within Information Studies, Simone Browne (2015) and Virginia Eubanks (2018) are exemplary in this, tracing the way that histories of anti-Blackness remain embedded in modern configurations of surveillance and that the lineages of austerity and moral condemnation of the poor are reanimated through automated decision-making in the public sphere, respectively. I am also resistant to providing a direct “action agenda” for transformation, wanting to stay away from jumping too quickly into “implications for design” (Dourish 2006) for systems or policy, instead seeking to reveal and analyze patterns which may be useful in transforming systems. My investigation of virtual schools takes up both of these approaches – I see virtual schools as an area of concern because they are disproportionately marketed towards marginalized or minoritized populations, because they are framed by some as a tool to interrupt or correct patterns of inequality and violence, and in order to investigate whether these

formations represent a departure, continuation, or expansion of both histories of violence and subjugation and legacies of community and care.

Positionality and Lived Experience

While I was encouraged to get a job working in the virtual school space by mentors, colleagues, and friends in order to better access organizational practices and participant perceptions, I struck out in my feeble attempts at doing so, in part because of my concern about the additional complications such a position would pose for issues of consent in data collection. However, the COVID-19 pandemic provided a surprising opportunity to share many of the experiences of my dissertation participants. During the summer of 2020, I interned remotely for a large technology company as a user researcher. This involved conducting my work entirely online, and my collaborations with colleagues and research participants were fully computer mediated. In the Fall of 2020, I got even closer to the vantage point of a participant when I was both a teacher and a student in graduate seminars online, due to university classes going completely digital because of the pandemic safety risks. Although these experiences were distinct in many ways from those of my participants, they also shared a number of characteristics. The comparisons were fruitful in surfacing what elements of my study might generalize and under what conditions. I was working remotely under emergency conditions, being in-person was not an option, and both the institutional norms and technical affordances of the platform I used foregrounded shared visibility and interactions among students to a much greater extent than most of the schools I studied. My classes were synchronous and interactive, and both my students and I had our video cameras on most of the time. I had only seven students, several of whom I knew before I began the class and consider friends, and my class was not a requirement for any degree. As graduate students, my students and I were shared a general professional status and all of us were adults – I did not interact with any student's parents about their education (and doing so would have been wildly inappropriate). However, both my students and I worked from our homes or other locations that were not work-specific. When I sent students into breakout groups, I could not passively keep an eye on their actions from afar. And at times, students did not share their video, and I experienced being unable to access the forms of observation I had previously relied on.

More generally, knowledge production I am involved with is shaped by my social location, personal history, and the multiple identities I embody (Haraway 1988; Liang, Munson, and Kientz 2021). Liboiron (2021) and others have noted that too often, the dominant social positions researchers' hold go unmarked, situating categories such as 'white' or 'settler' as the universal norm and all others as particular, perpetuating centuries of racial and imperial hegemony by suggesting the falsehood that people who fall within those categories can somehow be more objective than others (Liboiron 2021). This erasure of the particular positioning of all knowledge claims can be countered, in part, with some description of the researcher's position.

However, it is impossible to provide a full explanation of the ways in which we move through the world and how this influences interactions with systems, other people, and ways of knowing. Many social scientists rely on shorthand to indicate qualities that, based on prior research, they believe to be especially relevant to understanding the situation at hand. Because race, class, and gender exert such structuring force in contemporary U.S. society, these classifications are frequently applied to situate both participants and researchers, often without additional

commentary on the significance they might play in interpretation. Other aspects of one's positionality are generally mentioned when they are deemed to provide crucial meaning to a given statement or scenario. For example, in her classic ethnography *The Managed Heart*, sociologist Arlie Hochschild (2003) describes one person as "a recent bride" when discussing her feelings during her wedding (59), while she refers to another a few pages later as a "forty-eight-year-old woman" when referencing the quoted individual's feelings about her father's death (65). In both cases, Hochschild elides race, religion, and class, even though she had previously noted that the phenomenon she analyzes likely differs based on these social groupings (57). As is a theme throughout this dissertation, the elements that shape someone's life experience exceed what can be said or known in a given moment. When Hochschild explicitly names someone's age or marital status in order to describe them, she is making an implicit argument that prioritizes these criteria in our understanding of the speaker's position. She is also relying on shared assumptions about the meaning of those criteria that may not be stated explicitly – for example, perhaps, that there is nothing inherently shocking about the parents of a forty-eight-year-old dying in the way that there might be for an eight-year-old or even a twenty-year-old. When social scientists, including myself, reference someone's race or gender or other social categories when describing them, we expect the reader to draw certain conclusions based on an imagined shared cultural understanding of what the terms entail. This is easiest to notice when that assumption obviously fails, as when an author offhandedly uses a term accepted in within their social milieu to categorize someone that a reader finds disparaging or offensive.

All this means that there are good reasons for researchers to attempt a partial description of how their social position has shaped their research, while also recognizing the limits on that description. To the extent that my position as a white, cisgender, upper middle-class, unmarried, nonimmigrant, monolingual, settler, U.S. citizen, woman with no children was perceptible to participants in this study – and I believe participants were likely to accurately assume these elements of my identity – it is likely that this knowledge strengthened the sense of intimacy and trust some participants felt in conversing with me and diminished the same in others. I have tried to indicate some of the times, throughout the text, when I suspected this was the case, and more generally to incorporate discussion of some of my own experiences to flesh out how these influence my perception and analysis. For example, a few participants referenced the belief that they or people they knew were subject to race-based discrimination because they were not Black. Although race is a complex social experience irreducible to any one characteristic, I believe that participants' perception of my whiteness influenced their decision to articulate these claims. My own lived experiences also combine with other sources of knowledge, like prior scholarship, to structure my awareness and interpretation of social phenomenon. So the fact that teaching runs in my family, for example, probably made me more attuned to the nature of teaching and provided familiarity with certain patterns of behavior. On the other hand, my religious background may have made me more likely to miss opportunities to understand the role of religion in some people's experience of virtual schools. It can be difficult, however, to determine the nature of these connections. Sometimes being a researcher from a different social group to a participant can provide an impetus for the participant to explain a situation in more detail than if they assume the researcher already shares their experience. Several participants expressed confusion at how long my PhD was taking, or surprise that I was not aware of a framework or reference they seemed to think would be standard for someone in my role. This could provoke distrust, or bolster the confidence of the person I was speaking with.

Pillow (2003) persuasively critiques statements of reflexivity such as the preceding in qualitative research, arguing that researchers often use such self-disclosure as “confession, catharsis, or cure.” She emphasizes how researchers deploy these statements in attempts to bolster the legitimacy of their work, but in doing so frequently obscure the underlining power relations and inherent precarity of their analysis. She enjoins feminist researchers, in particular, to instead foreground the inherent instability of their work, such that an “inherent exposure of power relations...interrupts any notion of construction of a seamless and objective text and makes visible the personal construction of the text while taking ‘responsibility for the knowledge being produced...’” (188-189). In other words, we must be willing to express that our knowing is partial and provisional, and that while many other actors have contributed to the assemblage of this project, the author who writes these words and whose name is on the document is accountable for what she says.

Methodology

Interviews

The bulk of data in this study is from open-ended, semi-structured interviews with 56 participants – 36 teachers and staff, 11 parents, and 4 students involved with 10 schools in 7 states, as well as 5 policymakers and community advocates who focus on the broader landscape influencing virtual schooling (see Appendix for participant table). Interviews ranged from approximately 30 minutes to over two hours. I conducted follow-up interviews with four participants. Most interviews happened online, over Zoom or Skype, during which participants had the option to turn on their video or have the interview be audio only. Several interviews were conducted over the phone, including some interviews where I used Zoom or Skype while interviewees called in or received a phone call from me via the digital platform. Some interviews, particularly those at the Lake School, were conducted in-person, either in the school building or in a public place, usually a coffee shop. Most interviews were recorded and transcribed, some by me and some by paid professionals. All interviewees were provided with informed consent documents ahead of the interview, and I began each interview by reminding interviewees that they could skip any question, stop at any time, and asking their permission to record.

Sampling

I recruited interview participants through a combination of purposive and snowball sampling (Ravitch and Carl), seeking out teachers, students, parents, administrators, policymakers, and community advocates with diverse perspectives, positions, and backgrounds at different “kinds” of schools – neighborhood public, charter, private, and homeschools, in different geographic locations, with varying demographics, pedagogical approaches, organizational structures, and missions. This strategy was “aimed toward theory construction, not for population representativeness” (Charmaz 2006, 6) – I sought out extreme or unusual cases as much as those that might represent a “typical” experience. This focus on sampling for range or diversity was complemented by snowball sampling, which allowed for a deeper understanding of the relationships and circumstances within particular school communities. My goal in this process was to understand the landscape of virtual schools in the U.S., identify significant elements that

influence community member experiences, and to trace the processes of engagement with virtual schools that produce different sets of risks and rewards.

Recruitment

I identified potential participants via online school websites, news stories, conference speakers and attendees, social media posts, and personal connections. My typical procedure was to message potential participants with a brief introduction of myself and the project and ask if they would be interested in doing an interview (see sample recruitment email in Appendix). At the Lake School, I paired a general invitation sent out to all staff as part of my observation process (see Appendix) with individual appeals when I spoke with people at the site. In addition, I made a post expressing interest in interviewing people involved in virtual schools to my Facebook and Twitter accounts, to which a few people I knew responded. If I did not get a response, I would sometimes send one follow-up email. At the end of most interviews, I would ask participants if there was anyone they would suggest that I talk to, and if they mentioned someone who I was not in contact with, I would ask if they would either give me those people's contact information or give my contact information to those people, whichever they felt more comfortable with.

Content

My standard interview guide (see Appendix) included a brief introduction of the project, a chance for participants to ask questions, and broad areas of interest that I tried to raise in each interview, including the circumstances of their initial interaction with virtual schools and their motivations for pursuing that option, things they liked about their school and challenges they had there, how their virtual school experience had changed over time, who they thought virtual schools were best and worst for, and what their daily experiences with virtual schooling were like, with an emerging focus on the relationships between students, teachers, and parents. My investigation focused both on how the virtual school system “works or fails to work” (Weiss 1995, 10) and on understanding the perspectives and experiences of those engaged with that system. Initially, I attempted to ask questions about security, privacy, and discipline in virtual schools, but I found these themes rarely had resonance with interviewees, so I moved away from those topics unless I had reason to suspect they would have an interesting perspective on these elements. I often probed participants on their answers, asking them for more detail, concrete examples, and greater explication, particularly when participants spoke in generalities. To the extent possible, I let interviewees “speak freely in their own terms” about their experiences with virtual schooling (Lofland and Lofland 1994, 85), but would move on to the next topic not previously mentioned when they reached a stopping point in their descriptions. The open-endedness of my questions, followed by probes regarding the language and themes raised by interviewees, allowed for unexpected outcomes (Becker 1996), while having a general guide of topics of interest allowed me to compare experiences and provided an initial framework for coding and analysis (Deterding and Waters 2018).

Observations

In order to understand participants' experiences within the social, physical, digital, and institutional contexts in which they operate, I supplemented my interviews with observations of

people engaged in the practices of virtual schooling and the process of creating, learning, and managing virtual schools and their attendant concepts, such as personalized learning. Throughout this fieldwork, I took field-notes to provide “thick description” of events and written memos about my experiences, conversations, perceptions, and emerging understandings (Lofland and Lofland 1994; Ravitch and Mittenfelner 2016) alongside interviews throughout the course of observation. I was informed in this process by the practices of ethnography, where researchers embed themselves within a community for an extended period of time and reflexively participate in daily life. Ethnography allows scholars to obtain rich data about social life that participants may not be able to or want to articulate in interviews. In particular, ethnography creates opportunities to recognize that which is taken for granted by participants, the infrastructure of their experiences that is so familiar that it is difficult or impossible to name its influence. It also enables researchers to make comparisons between what participants *say* and what they *do*, opening new areas to analysis. Discrepancies between participant accounts and researcher observations can indicate social norms, cultural taboos, and the complex processes of collaboratively constructing social meaning. This immersion in the community also allows the researcher ample access to distinct perspectives and ongoing processes, allowing them to triangulate their findings and surface complex interconnections between people’s perceptions, behaviors, and environments. The ethnographic fieldsite need not be one bounded geographic community, but can involve, as Burrell (2009) explains, constructing a site made up of “physical, virtual, and imagined spaces” that allows the researcher to follow the distributed manifestations of a particular social phenomenon. Ethnography emphasizes the nuanced particularity of how cultural concepts are interpreted and created by the social actors who bring them to life. As Seaver (2017) states, “Ethnography roots these concerns in empirical soil, resisting arguments that threaten to wash away ordinary experience in a flood of abstraction” (2).

I aspired to be an ethnographer for this project, but due to access challenges I will describe, I was not able to conduct long-term, immersive fieldwork. Instead, I stitched together observations of a series of events that fell within the wide rubric of the virtual school community. My engagement was solidly in the “observer as participant” category (Gold 1958), falling short of the researcher who “establishes and sustains a many-sided and relatively long-term relationship with a human association in its natural setting,” (Lofland and Lofland 1994, 18). As Communication scholar Jessa Lingel (2017) puts it in her study of the internet and alternative communities, “I am inspired by and rely on tools of ethnography without necessarily meeting the standards for traditional definitions of this method, online or off” (16).

The Lake School

I observed the actual process of schooling at the Lake School, a hybrid city-wide charter school in a large Midwestern city. I first visited Lake in Fall of 2018 and continued to visit in-person periodically throughout the 2018-2019 school year.

In-person observation at Lake’s physical building included:

- **The teacher’s lounge:** On several days throughout the school year, I sat in the teacher’s lounge in an attempt to introduce myself personally to a wide range of teachers, establish connections with them unmediated by administrators, and to document how teachers

interacted in and with the physical space. The lounge was on the second floor and on the other side of the building from the administrative headquarters and front office, which made it feel like the teacher's territory, rather than administrators' or students' space. It had a couch, lockers, and three large round tables with around 5 chairs at each table. There was also a refrigerator, microwave, sink, and coffee machine. There was a passcode to enter, which I was granted the first time I visited. I tried to position myself in the lounge before classes began and during lunchtimes, when teachers congregated together and talked to one another while they ate or prepared. A couple times I sat there for several hours, documenting who came in and out and our interactions, and working on my computer when no one was there. The space was shared between Lake teachers and staff at the music school that was co-located in the building. Occasionally, teachers would bring in students during the day, but students were mostly not allowed without supervision.

- **The front office:** At other times, including when things got too quiet in the teacher's lounge, I sat with Ms. M (E5), who worked as the assistant to the CEO and as a general administrative assistant and receptionist for the school. I interviewed Ms. M, formally and informally, and watched her perform whatever tasks needed to be done to keep the school running that day. Teachers, staff, parents, and students would come into the office to ask Ms. M questions, work at one of the open desks, vent about their day, or wait for someone else.
- **School Board Meetings:** I attended Lake School board meetings both in person and online. The first time I attended, I was introduced by the CEO. I made an effort to introduce myself to parents who attended these meetings, and displayed my name when I joined online. Technically, school board meetings had very limited opportunities for public comment. But because of the hybrid nature of the school, meetings were live streamed online. In the streaming platform, those who joined online could input comments into the chat window. This became a backchannel where, in addition to posing direct questions to board members and administrators, parents and teachers would comment on the proceedings and other areas of concern. Many of these commenters used pseudonyms, though some shared their names. These meetings thus became an opportunity to simultaneously witness the official narratives about the school and the administrative structure behind it, and the responses of community members to administrative choices and their narratives about what was taking place.
- **Professional development & administrative meetings:** I also sat in on discussions among the school leadership team, mostly pertaining to their strategic plan and efforts to successfully fulfill the district's requirements to retain their charter and be removed from probation. In addition, I attended all-teacher trainings and meetings where instructional staff discussed current events and engaged in small group tasks, such as reviewing student data or workshopping strategies for lesson plans. In these settings I was privy to both school-wide debate and discussion about new and existing policies, tools, and practices and to informal reflections and reactions between select colleagues.

In addition to spending time at Lake's physical site, where I also conducted interviews with staff and accompanied teachers in monitoring the hallway and setting up their classroom, I also spent time with Ruth and Megan while they were teaching from their homes, for about four hours each. Another teacher, David, shared with me videos from one day of his classes. I estimate my total

time observing in-person at Lake at around 60 hours, though I did not closely track my presence and things like commuting to the school also shaped my overall understanding of the context in which Lake operates.

Events & Cultural Conversations

In addition, I attended several conferences targeted towards educators, administrators, and EdTech designers focused on virtual and personalized learning, and remotely attended several local school board meetings in a city making a decision about whether to permit an online charter school. These events provided me the opportunity to experience how virtual schools were promoted and how developers, teachers, and administrators understood the value and risks of virtual schools, education technology, and personalized learning approaches. I was also able to witness who was involved in these conversations and trace how their discussions fit in to broader cultural discourses, including around inequality, labor, and technology. Further, I took note of and saved stories from local and national news media that related to these topics to establish popular perceptions and track evolving developments around particular virtual schools and education technology providers. These documents helped me identify dominant narratives, locate varied perspectives, and triangulate my findings throughout my research process.

Analysis

I largely inductively analyzed these materials through an iterative qualitative coding and memoing process (Lofland and Lofland 1994). I have combined the coding approach associated with grounded theory (Charmaz 2006), which begins with close line by line analysis of the data, with the flexible coding approach recommend for semi-structured interview studies that begins with broad “index” codes based in the interview protocol and then focuses in as the “main ‘stories’ in the data” begin to emerge through cross-case analysis between interviews (Deterding and Waters 2018). Incorporating both strategies allowed me to privilege both what Deterding and Waters state is the goal of grounded theory, to allow for “surprising results and phenomena to emerge” and the “cumulative theory building” that expands on existing literature as emphasized by contemporary sociology. I moved between coding to writing provisional accounts of the social phenomenon at play, returning regularly to the data to explore the context of relevant quotes and seek out instances that could challenge my nascent understanding.

I also shared my provisional analysis and early writing with peers and colleagues in Information Studies, CSCW, and STS, and gave talks based on my research at the Society for Social Studies of Science annual meeting and the LaborTech research group. In these forums, I received feedback on my framing and early arguments.

Member Checks

Throughout the process, I talked to some participants about what I was noticing, discussing emerging themes and analysis to support interpretive validity and the construction of emic accounts (Ravitch and Mittenfelner 2016). This process was not nearly as robust as I would have liked. In addition to informal conversations, I sent a brief summary of provisional key findings to about half of my participants around the end of 2019/beginning of 2020. I sent this document to

all those interviewed before November 2019 for whom I had an email address. I received very few responses.

While working on the final draft of this dissertation, I attempted to send most interviewees excerpts including their quotes and surrounding context, asking them to review the segments for accuracy and ensure I had not inadvertently revealed something that could be harmful. For some participants (primarily teachers and staff), I also included general descriptions of their schools, even those that did not mention them specifically. I offered to send a full draft to each participant, but I was reluctant to do so by default for two reasons. The first was that I was simply embarrassed by the state of the draft and concerned that my disorganization would lead to greater confusion rather than further clarity. The second was that I was concerned that sending participants a 200+ page draft, even if I explained that they could search for their pseudonym, would be overwhelming, and could interfere with giving participants a chance to review the material that most closely related to their experiences. I tried to offset the limitations in what I shared by encouraging participants to ask me questions or express concerns.

I contacted 48/60 participants via either email, text, or LinkedIn. For some, I had out of date contact information. One kind participant at the Lake School, who has become a friendly acquaintance, helped me connect with a number of her colleagues, since their school closure meant their old organizational emails no longer worked. I did not reach out to those who were not mentioned or quoted in the text, though I intend to send all participants a copy of the final dissertation. After I sent excerpts, I generally followed up once after a few weeks if I had not heard back. I was able to send excerpts to 43 of those participants and received 32 responses by the time of this writing, all approving or offering minor corrections, which I incorporated into the text. Participants were incredibly generous in their readings. A few gently disagreed with the direction of my analysis or conclusions but were cordial. Several expressed concern that the verbatim nature of the quotes obscured their meaning and made them seem more informal than intended. A few requested I make minor adaptations to better preserve confidentiality. I have attempted to incorporate any such response and correction throughout. I have lightly edited quotes for clarity and readability, following the process laid out by Lareau (2021). Mostly this involved removing filler words such as “like,” “So,” “you know,” and “um,” and false starts or repeated words or phrases in cases where I felt doing so would not change the meaning of the quote, and replacing colloquial verbal phrases “gonna,” “wanna,” “ ‘em” and “ ‘cause” with “going to,” “want to,” “them,” and “because.” In Appendix A, I list each participant’s response or non-response to my inquiry.

In addition to asking participants to review what I had written about them and their environments, I also gave them the option of providing a self-description, which 18 ultimately did. I did this because I wanted them to be able to represent themselves as they perceive themselves, alongside the ways that I have described them. I also used this tactic to supplement my often-anemic descriptions. Because many interviews were conducted remotely, and due to my lack of skill in chronicling people’s appearances and personalities, I felt that self-descriptions would offer additional context and understanding of those included in the study. At first, I simply asked people to describe themselves in a few lines, which generally resulted in a standard bio. I switched to asking people to describe themselves so that readers “have a picture in their minds of who you are when they read your quotes.” I love the responses I received, which varied

enormously. While these are far from a substitution for ethnographic rich data, and certainly do not overcome the power dynamic between me as the author and participants as subjects, I believe they give offer important insight into people's lives and reminders of their holistic existence. At times, I have incorporated them into the text, and all responses are catalogued in the participant table (Appendix A).

This modified "member check" (Lincoln and Guba 1985) process was incredibly interesting to me. I found that as I pulled out excerpts for each participant, I considered how they might read from the perspective of the people discussed. This reflection led to me making edits, often to try to bolster clarity, but also at points to soften critique I felt, upon consideration, might be overly harsh. I also noticed as I compiled the segments when vignettes or quotes I had clearly remembered, which had influenced my analysis, were not present in the final draft. Sometimes, I realized I was semi-intentionally excluding comments that I felt made certain participants "look bad." I generally believe that in these cases, I did not significantly change the meaning of the analysis – that the comments in question would not change the meaning of other excerpts from those participant's interviews. At times when I had included quotes that I was concerned might be contentious, this reflection prompted me to go back and incorporate other quotes from those interviewees, to indicate the breadth and variety of their experiences rather than reducing them to one comment. But at a few points, I may have weakened my analysis by withholding empirical evidence of a point I was trying to make out of concern for the reputation of the interviewee, and their self-esteem, and frankly (unfortunately), in order to avoid conflict. Since participants had been so generous in sharing their experiences with me (for no pay!), I felt awkward about including comments that might cast a negative light on them. Of course, it is crucially important to avoid this sort of self-censorship in the pursuits of rigorous and thorough analysis. The dilemma for me was whether these comments were central to the analysis, or tangential enough that they could reasonably be excluded. My intent here is to focus on structural systems and cultural patterns – not on berating specific individuals. I have tried to be conscientious in striking an appropriate balance here, but I continue to reckon with these decisions. In other cases, I noticed that because I had not attributed something I observed to a particular individual, I removed the opportunity for participants to review those segments. In cases like my discussion of teacher comments on students in the accountability chapter, I did not include identifying information about individuals in my initial notes, so I did not know who said what. This made it easier, in some ways, to be critical about what was said, but it also denied the ability for those represented to object.

Limitations and Challenges

This dissertation study includes a paltry amount of observation by traditional ethnographic standards. When I began this project, I envisioned spending at least a year regularly observing at one virtual school. I would attend classes online alongside students. Once or twice a week, I figured, I would visit students and teachers at home and watch them conduct their daily schoolwork. Early on, I decided to approach school administrators to gain official access to the members of their community and obtain their permission to use their organization as a field-site. But as Figueiredo-Brown (2013) found in her study of virtual schools, "Research is dependent on the good will of some schools to participate in research," and many virtual schools are especially closed to outside inquiry (69). One school I looked into had an official process for researchers to

request access – but it explicitly prohibited qualitative work. Most had no designated liaison for research. Later, I adapted this approach in the face of institutional resistance, shifting to a strategy of interviewing individual participants involved in virtual schools about their experiences, without attempting to get permission from their schools. This was a much more fruitful approach, but I was hesitant under these circumstances to request the opportunity to observe these participants, in part because I was concerned that if I were to collect observational data on the proprietary platforms of virtual schools, I would be somehow violating the rights of the schools. I regret this decision. I later attempted to begin observations with individual participants without school approval, but, as I will discuss below, this was interrupted by circumstances outside of my control. Here, I lay out some of the situations that resulted in access aborted or denied.

Dead Ends

Rethinking High School

Early in my PhD program, I learned about a new Bay Area charter school that was a finalist for the Laurene Powell Jobs funded XQ Super Schools competition, which offered \$50 million to schools across the country to “#RethinkHighSchool” (Williamson 2016). XQ ran a wide-spread advertising campaign on television, billboards, and public transit encouraging public participation in the competition in the form of short videos describing how they thought high-school should change. The local school that was a finalist was focused on “experiential learning,” and in particular, on an immersive group study abroad experience for high schoolers, where students would engage in projects related to their host country. Students would spend the first third of their school year preparing for their trip, the second third abroad, and the final third reflecting on their experience and preparing a final group project. What drew me to their experiment was that the school planned to use online courses from Summit platform, working directly in partnership with Facebook, so that students could maintain continuous enrollment in classes aligned with state standards and the common core curriculum. The school would provide in-depth in-person group learning experiences – and then use online platforms to keep students from falling behind in the eyes of the administrative state and higher education institutions that would evaluate their academic achievement.

While I was seeking summer funding in the spring of my first year in my PhD program, I saw that the school was hiring for several positions. I approached them about the possibility of working for them and doing research at the same time. The co-founder generously agreed to meet with me, but was not interested in my proposal. I suggested that instead I could simply research the school, sharing my findings with them, but she also politely rejected this offer, expressing concerns about student and staff privacy. She did not want their experiences and potential missteps to become public, even under a pseudonym. Back to square one.

Red Tape

I learned about the Lake School from my child-hood friend, who in this dissertation I call Ashley (G5), whose sister was a student at the school. I approached Lake by emailing the person listed as the high-school principal on their website and was quickly connected with the CEO. The

administrators at Lake were enthusiastic about my research, and had it approved by their board. I requested that administrators email the entire school to let them know about my research and provide a way for individuals to opt-out. However, on the first day I was meant to observe at the Lake School (shortly after my dissertation proposal was approved by my committee), I began to get cold feet. The CEO had introduced me to the IT Director, and he had proceeded to walk me through the administrative dashboard of their virtual platform – filled with student personal information. Watching student names and grades scroll by on the screen, I broke into a cold sweat trying to remember the details of FERPA, the law which protects student data in educational institutions, and how that might interact with my ethical responsibilities. FERPA protects the sharing of student data if a researcher is acting in the interest of a school – basically as an extension of the school staff – but I was also eager to maintain my autonomy as an independent researcher. I began frantically trying to surreptitiously google for more information about FERPA in an ethnographic context while listening to the IT Director’s platform tour. The FERPA related results were mostly comforting, but my searches revealed a new cause for alarm. Results included a website for the city’s research review board, which regulates empirical academic research within the city’s public schools. Because Lake was a charter school, I had assumed that having the consent of their board, along with my own university IRB approval, was sufficient grounds to begin research at the school. But according to the research review board website, while *teachers* at charter schools were not district employees, the *students* remained under district supervision – which meant that any research involving public school students, including those at charter schools, had to be approved by the CRRB.

I panicked, but I tried to right the course. I told the CEO about the situation and explained that I would have to apply for permission to officially conduct research with her students. In the meantime, I said, I would restrict my focus to teachers and staff. While this was complicated to do in practice, given that teachers are constantly interfacing with students, I decided that as long as I refrained from collecting data on the students *as individuals*, I should be narrowly within bounds. The CEO was completely flummoxed by this development. She was adamant that she and the board had the discretion to permit my research, not the CRRB, and was clearly annoyed with my doubts and the change of plan. But since I was too frightened to go against what I saw as the CRRB mandate, for fear being sanctioned or collecting data that would have to be thrown out, she reluctantly agreed to my modifications. She was a busy woman and didn’t really have time for these problems.

This was also an indication of a problem that would arise repeatedly for me – school staff were generally too overloaded to coordinate with me to ensure that the logistics of research could take place according to best practices (or anything resembling them). I was desperate to over-communicate at every turn, hoping to prevent harm by being as transparent as possible about what I was doing and informing everyone involved of exactly how they could participate or opt-out. I had known going in that the only halfway reasonable approach to this kind of organizational research was to choose an opt-out, rather than an opt-in, protocol. I felt the barriers to entry were simply too high for enthusiastic consent (which, I had a nagging feeling at the time which has only grown stronger to this day, might have suggested that this was overall a bad strategy to pursue). But even this compromise method was challenging to achieve. I had to request any communications be sent by the IT Director, and they had to be approved by the CEO. When they were sent, I was not cc’d, so I had no direct way of knowing what form they

had been shared in, and whether they had been received. I felt vaguely confident that my email to teachers and staff was sent because it was eventually mentioned in enough conversations that I believed it had happened.

But it quickly became clear to me that many of the teachers did not regularly read their emails, especially if they did not seem to be personally important. When I took notes on conversations happening between staff, some I was involved in and others I was not, it was never really apparent to me whether this was something staff expected and understood to be happening, which made me hesitant about using that material in my analysis or writing. In retrospect, I am not sure why I didn't just ask a couple trusted interlocutors. I think I worried they would become paranoid around me. As it was, I frequently inquired about whether it was OK for me to join various events and spaces, often to the annoyance of those I interacted with. I made an effort to foreground my general practices – announcing that I was a researcher, that I was observing – but often stopped short of emphasizing the specifics. Various occasions, some of which are discussed below, suggest both that participants knew I was watching, and were uncomfortable with the possibility that I was documenting their individual words or activities. There were conversations people would not have with me around.

Back to the saga of the research review board. Graduate students were required to complete a two-stage process – first applying to be considered, then submitting an actual application. The process was opaque, and I had no clear sense of how long it would take. But I was also pleased by the idea of doing things by the book, making sure that my research was marked as legitimate. When I received word after a couple months that my initial pre-application had gone through, and I could now submit a full proposal, I was reassured, though frustrated that the process would take another couple months to complete, as my proposal would have to be reviewed by the full board. Given the school leadership was on board and I had the blessing of my institutional IRB, I was confident I would be approved. But in the spring, the verdict came back – my proposal had been completely denied. With vague wording, the decision stated that as a charter school, Lake was outside of the jurisdiction of the research review board. They encouraged me to select another school to study. Through a frustrating discussion with the research review board representative and an illuminating one with a sociology PhD student who was familiar with the process, I slowly realized that despite what they had claimed on their website when I had found it back in December, the research review board did not have jurisdiction over charter schools. They refused to directly state that there was nothing stopping my research on this front, but any proposal for research at a charter school would be denied on this basis.

At this point, I had lost months. I had stalled on returning to the city full-time, concerned about not being able to fully engage in research. By the time I returned with the news about the research review board (the CEO responded by re-asserting that this had been her position all along), Lake School was further in turmoil. Local news had broadcast inflammatory stories implying corruption at the school, and many teachers had left the organization. The probationary period was not going well. The leadership was, at this point, much less interested in my work. I repeatedly asked to have an email sent around to students and parents, similar to the one I had sent to teachers and staff. But it was unclear to me if this ever happened. In the absence of such an announcement, I did not feel I could collect data on students. This led to awkward situations, where I did observe some class interactions while shadowing a teacher and watching recordings

another had made from his class, but I studiously avoided writing down anything specific about the students themselves. I would write down some of their comments, but largely freed from context, merely as missives sent to the teacher who had granted me permission to follow them around.

I probably could have done more, just by showing up in a classroom at a friendly teacher's invitation, announcing my intentions, and perhaps asking that teacher to send home an announcement, rather than going through the central administration. But by this point, teachers and parents were on edge. And I was consistently unclear on what chain of command would be "good enough" to protect myself and any teachers who worked with me should the administration decide they were unhappy with the course of events. It became impossible to determine whose approval was necessary to move forward. I gave up, deciding perhaps it would be better to start with a clean slate. I doubled down on focusing on teachers and the school administration. Leadership agreed that they would send out an announcement along with all their beginning of the year materials in the fall. I began to talk with one of my participants, a teacher who had been promoted to principal, about observing the intensive new teacher orientation he was planning for the summer. Then, I figured, I could really embed – do what I had wanted to do since the beginning, and be regularly present, with full understanding by participants and buy-in from all involved.

Then the CEO was suspended, and another key staffer was either terminated or her contract was not renewed. While it had become difficult to get an audience with either, they had both been my primary access points and advocates at the beginning of my connection with the school. The Head of School was promoted to Interim CEO, and while she had never seemed particularly gung-ho about my research, I thought I would still be able to move forward under her leadership. When I reached out to contacts at the school, everything seemed to be in chaos. No one really knew what was happening. In July, the new Interim CEO resigned. Another administrator, who many of the teachers had conflict with, was promoted to Interim CEO. I had not talked to her as much as I had to other staff. When I raised the prospect of continuing the research in more depth, she was noncommittal and not particularly responsive. The beginning of the school year came and went. A number of teachers I was closest to left the school, which was fighting to survive, awaiting the verdict on whether they would be kept open or if this would be their final year. Eventually, I requested an email simply be sent to parents with my contact information explaining the research, so that parents could individually opt-in to interviews and observations. I was told the email was sent, but I received no replies. It is very possible that at this point, parents and staff were so overwhelmed by the drama of the school, and nervous about both potential corruption and possible media exposes, that no one wanted to be involved. They may also have simply skimmed the email, or never read it. I continued to attend online board meetings for the school but felt I had lost out on any possibility of sustained access. When the city determined that they would close the school, while the administrators planned a series of appeals, that felt like the final nail in the coffin of my research access. The school simply had more important things to deal with. I continued to follow occasional board meetings. Another teacher I had interviewed said he would be open to having me shadow him. I hoped that I could pursue that and other individual teachers, to help round out my data collection. That was in February of 2020.

Another Day, Another Charter Scandal

I tried to access one other school by going through the administration. In 2019, I learned about an alternative in-person charter school in a West Coast school district that was facing financial insolvency. In order to try to save the school, which focused on serving students facing barriers in traditional educational settings, school leadership wanted to merge with a company running a network of virtual charter schools across the state (not the companies I have refer to here as Bluebird or Cardinal). The proposal was that the school would continue its in-person operations with an infusion of funding from the virtual school network, while also expanding to include a small online program which they argued would help them better serve their student body. The school board for the district had to approve this merger, without which the school would lose its charter and have to close. The decision-making process became highly contentious. Concerned citizens investigated the network, pointing out that it had been launched by someone who had a warrant issued for his arrest related to defrauding the state. Critics also unearthed recent troubles in the network's relationship with other school district that had been excluded from their initial reports. Further, public school teachers in the district objected to the non-unionized charter network and demanded that the school board reject the entry of virtual schooling into their district, claiming the practice as academically shoddy and predatory. Teachers and school board members expressed concern that the virtual school network was using the charter school to gain a foothold in the district and would then go on to poach students more broadly from their public schools and that of neighboring districts.

After learning about this situation, I set up a call with the CEO and had a good conversation with him. He had a background in research and seemed open to my project. I emphasized that there was so little empirical research about online school experiences, which could be contributing to the bad reputation virtual schools had in these contexts. He seemed to agree. Yet when we began to discuss the specifics of a research plan, he sent me a non-disclosure agreement drafted by the company legal team. The NDA effectively prohibited the core tenets of independent research – it would have required me to obtain approval of the school for anything I wanted to publish and forbid me from discussing anything I observed during the course of my research. I pushed back, explaining why these restrictions were not compatible with academic research. I never got a response. The school district rejected the bid, and the alternative charter school was shut down. Less than a year later, the entire district would be online due to COVID-19.

Pandemic

At the beginning of Spring 2020, I was trying to figure out a plan to add further observations shadowing individuals at other schools to provide a broader picture of how virtual schools operate and assess the design of varied virtual school platforms. I knew I would not be able to do the kind of months-long embedded observations I had once hoped for, but I figured I could at least try to spend a few days or more with students, parents, and teachers, to get deeper context on how they engaged with virtual schools in their day-to-day lives. I was teaching for the first half of the semester, but I believed that mid-March through May could involve visiting with interview participants at Eagle Academy, Lake School, and maybe even some former Pelican School teachers who were now working as teachers for a third-party company that provided ala cart online courses to a variety of schools. At this time, a friend told me about a friend of hers

who lived in a remote rural area. While the friend of a friend herself sent her children to public school, this required a one-hour bus-ride each way, and many of her neighbors had chosen to homeschool instead, including several who were enrolled in a state-wide virtual charter school, the school I refer to in this dissertation as Cardinal Pacific. Based on the background information I was given by my friend, this seemed like it would be an extremely interesting place to do some observations. I had hoped since the beginning of my project to include a focus on rural families, and this provided an ideal starting point. I envisioned immersing myself in the community and learning the nuanced context of school choice and internet activity there. The logistics of the trip would be complicated because I don't drive, but my friend graciously offered to give me an initial ride. We began to make plans to travel over spring break. Around March 10, 2020, we discussed renting a car and I looked into our options for lodging, wondering if my allergies could withstand sleeping on the couch for a week at the pet-filled home of my friend's friend.

When the stay-at-home order first went into place in California, I held out hope. After two weeks, I figured, I could go on my own in April. Or, worst case scenario, I could go for short trips, Friday – Monday, in between my classes in the fall semester. I conducted an interview over Zoom with the family I had planned to follow. They were blurry and quickly turned off their video so that we could have a smooth call. The child who was a student at a virtual school, who was around 7 or 8, was shy. As I had spent two years learning from teachers in my interviews, it's hard to build rapport with a kid through a screen.

Checking Assumptions and Listening for the Silences

One reason ethnography is such a powerful method is that it provides an immense amount of data over time, constantly providing researchers with opportunities to look for patterns and check their initial interpretations. Geertz (1973) famously describes the ethnographer's task as that of unraveling "piled-up structures of inference and implication" in order to understand the meaning of a given gesture (7). This can only happen when one participates in the daily life of a community, learning through interactions and constant efforts to achieve mutual legibility, and being able to frequently discuss a given practice with one's interlocutors. And as mentioned above, the researcher's lens for understanding is shaped not only by the nature of their experiences in "the field," but also by their entire life-worlds that position their perspective. Without in-depth immersion in a community, a researcher is especially prone to projecting familiar interpretations onto the data. I lacked this kind of immersive access. One way of countering this is to frequently do "member checks" – asking participants how the researcher's tentative understanding matches a participants' sense of their meaning (Lincoln and Guba 1985). Researchers can also attempt to collect additional data to help clarify meanings and deepen understanding. However, another difficulty of research that does not include longstanding participation within a community is that researchers may be less likely to be able to access the perspectives of those who are skeptical of the researcher's project or intentions, and of those who are concerned about the ramifications of participation in research.

I was reminded of all of these limitations when I talked to Gabe (S2), a white teen boy living in a heavily conservative and religious state. When I asked Gabe why he wanted to leave his brick-and-mortar school, he told me, "There was too many distractions in public school." What kind of distractions, I asked. "Girls holding hands in front of my face and just a bunch of other things

like that,” he said. Oh, I thought. He was offended by public same sex displays of affection. Maybe he believed that being around girls in general was too distracting, that co-education was doomed to failure because of the innate sexualization of interactions between men and women. Maybe seeing two girls holding hands triggered deep-seeded homophobic rage. Feeling awkward, and suddenly hyper-aware of how I might be perceived as a feminist Californian calling from Berkeley, so often the focus of Conservative ire, I rushed to another question, rather than pausing to clarify his meaning. At the end of our conversation, I spoke briefly with Gabe’s mother, and she told me about their decision to switch to virtual school, after years of her son begging to leave the brick-and-mortar classroom and hearing radio ads for the school he ended up joining. And she explained:

When he was talking about girls holding hands, there were two girls sitting on each side of him, and they were trying to bug him and distract him. They kept grabbing hands in front of his face in his math class. It just sounded bad, like he was distracted by girls holding hands. [laughing] I wanted you to know that they were—it was stuff like that.

So, rather than being an instance of feeling intruded upon by the presence of queer sexuality, this was simply a description of mild bullying, or perhaps an indication of greater than usual sensitivity to the everyday interruptions of the school day. The moment was a key reminder for me of the importance of checking for understanding in interviews, of not projecting my assumptions. But it also stuck with me as a reminder of the very real possibility that my initial interpretation was almost certainly present for at least some portion of those who moved to virtual classrooms, perhaps lurking behind the unspecified “religious reasons,” and that such motivations might feel unspeakable for interviewees, should they even choose to speak with me. “It just sounded bad,” she said. Although I was sometimes surprised at the candor with which people would share their thoughts, there were surely things they refrained from saying, despite my assurances of pseudonymity. These absences require some amount of extrapolation. And the mother’s hesitation here, her concern at how I might have understood her son’s comments, speaks to the heart of the matter – contested beliefs about what is beneficial for children, and what is dangerous. In my interviews, I am missing the perspectives of parents who are hostile to schools, the kids who feel alienated, who don’t show. I don’t have the trust. I hear the teachers constantly reference this group, but the people who talk to me tend to be the ones who are proactive, happy, participating actively in the labor of it, those generally with social capital or other resources to bring to bear.

Costs and Benefits

For some participants, having someone take their experiences seriously was validating in itself. My first research participant, Kate (T1), referred to our interviews as “free therapy.” Many of the participants in this study who were eager to talk to me wanted to set the record straight. They were frustrated with what they felt were inaccurate portrayals – of virtual schooling, of homeschooling, of teaching online. After hitting a number of dead-ends in approaching various schools for field-site access, the Lake School surprised me by jumping at the chance to bring me on board – frequently referencing my UC Berkeley credentials in an attempt to burnish their reputation as cutting-edge and innovative at a time when they were facing increasing public scrutiny. In our first conversation, Michelle (E9) offered an explanation for why the Lake School

was willing to entertain my research inquiry. “Research on virtual schools overwhelmingly says they don’t work. But this school is different.” The school was in transition and wanted to consider how to organize themselves to best support a range of students. But in addition to wanting to learn about potential barriers and best practices, my research also presented an opportunity for a nuanced counter narrative to the story that virtual school simply don’t work. Articulating my elevator pitch for me, she continued, “This research can show the full spectrum of experiences and allow parents to make an informed decision, give an authentic picture of opportunities.” People spoke to me to make a case for how good virtual schools were in some cases, and to make clear the major difficulties they faced in others.

Others were not so excited about the prospect of greater visibility. While some teachers and parents who were advocating for changes in their schools wanted to share their experiences, others were understandably wary of how any information gathered could be used against them. Teachers at the Lake School and the Pelican School, in particular, both expressed concern about retribution for their comments. They would verify my relationship (or lack thereof) with the administration to establish if I was a spy. Several asked that I scope my data collection to be about learning – avoiding questions about the school’s leadership. Once when I was observing a group of teachers at the Lake School, one exclaimed, “I’m nervous because you’re over there taking these notes!” I explained I would always be happy to stop taking notes and that they were purely for my research, but these moments occurred somewhat regularly, a reminder of the discomfort of being observed and the particular dynamics of the organization. One English teacher at Lake, who never agreed to a formal interview, asked me in the teacher’s lounge about my dissertation topic. I responded that I was interested in people’s experiences with virtual and hybrid schools and relation to inequality, opportunities and challenges. She raised her eyebrows and said, “Oh, you’re going to start some drama!” These comments point to the limitations of my research methodology. The strength of ethnographic research, when done well, is that the ethnographer becomes a part of the community they study. They learn to read between the lines of what people explicitly say. But a community is not homogenous. My status as an outsider never diminished, but even if it had, I was fundamentally disconnected from the stakes of the conflicts at play, which meant that at a certain level, I couldn’t be trusted. While some people were more willing to open up about their perspectives, others saw no benefit to interacting with me for this study. I respected their position – again, this distancing move was in many ways at the heart of the virtual school experience. Participants were limiting interactions in an effort to minimize harm.

Ethnography in particular has come under warranted criticism for the way that increased visibility, often conducted by and for the powerful about those who face systemic oppression, can be a direct source of violence and means of control. Ethnographic approaches have a well-documented history as tools of colonialism and “a form of oppression” (Ladson-Billings 2000, 267). In light of this history, I attempted to be cautious in my study about how I approached participants and what I shared from my observations to avoid making information available that could be used against minoritized communities. I also tried to emphasize the experiences of people who take up a wide variety of positions and are embedded within many different communities, to emphasize both continuities and ruptures.

Just as virtual schools attract participants from divergent social locations, who carry differential risks when interacting with dominant school systems, rationales for denying access similarly came from opposing positions in terms of social power. The refusal of parents concerned about their children's education and teachers worried about the stability of their paychecks registered very differently than that of schools nervous about exposure of questionable organizational practices, though the two can be intimately related. Reports that condemned virtual schools for low academic achievement scores and inconsistent attendance policies were often met with the retort that the experiences of these students could not be understood through these numbers alone. Advocates argued that virtual schools were taking in particular sets of students who were more likely to struggle in school for the same reasons they chose virtual schooling – things like bullying, disability, housing instability, and family trauma. Qualitative research could bolster some of these claims, but it could also shed a light on unsavory elements of virtual schooling that organizations might rather keep under wraps. As I began my research, a series of journalistic investigations had broadcasted muckraking tales about problems in virtual schooling. Understandably, I could be seen as just another reporter grubbing for dirt. The Pelican School had a research application process that completely excluded the possibility of qualitative research. Another school I attempted to collaborate with asked me to sign a broad non-disclosure agreement – effectively ending the possibility of a partnership when I declined.

These were efforts at institutional protection. In his discussion of ethnography of algorithms, Seaver (2017) argues for “scavenge ethnography” when dealing with opaque systems and institutions hostile to research, where you take what you can get. He points out that this way of knowing actually follows people's everyday practices for sense-making around slippery and distributed concepts like algorithms – piecing together scraps from partial exposures. The same holds true, perhaps even more so, for virtual schools. My experience is fractured, fragmented. I am untrusted and conditionally accepted only. There's part of this that speaks to the experience of virtual schools that some participants share with me, of isolation and uncertainty and opacity. I occasionally begin to catch a glimpse of the kinds of intimacies that I am told are possible. But this distance is exactly what some people seek and find in virtual schools, and I do experience some of the freedom of it – the ability to slip away for months, pre-occupied with other concerns. I feel and try to inhabit accountability to my participants, but it is largely unmoored from structures, institutional or community, that would bring that to life in practice. I send email updates, and a handful of participants respond.

Once I get excited about organizing a panel for the Aurora Institute conference and try to mobilize two of my more responsive participants, both labor organizers. I feel pleased with myself at the idea of connecting them with each other and a potential broader audience, have visions of the participatory rewards that will ensue. But they're busy doing their jobs and there's also a gap in the way I know to elicit feedback and collaboration. I tell myself maybe next time. The relationships I have built with participants can continue past this project. But for some people, I have only an email address for a school that no longer exists.

The Schools

In addition to lacking a defining physical site, many are local instantiations of national charter management organizations. Like well-known CMOs such as KIPP, CMOs provide much of the

infrastructure for virtual schools. For virtual schools, CMOs are often especially attractive because they provide a ready-made platform, curriculum, available support staff, and policies. Like a franchise, CMOs allow local virtual schools to get off the ground quickly, without having to reinvent the wheel.

CMOs bundle together a number of elements for schools that they otherwise have to assemble themselves. These basic building blocks of a virtual might be developed or provided independently in-house, or purchased from a third party provider. These elements include:

- **Curriculum**
- **Learning management service (LMS)**
- **Student information system**
- **Synchronous Classroom platform**
- **Devices**
- **Teachers**
- **Support staff**
- **Policies**

To some extent, this is also the case in traditional schools. Charter schools that a part of a charter management organization will take many cues directly from that organization. Even in traditional district public schools, third parties may provide school meals, security and janitorial services. Using textbooks and other pedagogical materials from outside sources is routine. Some traditional schools (increasingly?) make use of many of the same contracted elements as virtual schools. For example, traditional public schools might use a Student Information system to track grades and attendance or use a LMS provided by an external vendor to help students, teachers, and parents track student progress and securely communicate.

This assemblage can complicate understanding of virtual schools. Further complicating matters, many students use virtual schools only part time. While remaining enrolled in their traditional school or registered as a homeschool student, students may take a virtual course for the purposes of credit recovery, to access something they do not have available in their usual school environment, or to advance more quickly towards graduation. As of 2018, five states required students to take some number of online courses (“Online Learning Graduation Requirements — Digital Learning Collaborative” 2018). As Schneider and Berkshire (2020) show, this legislative trend is backed by ALEC, a conservative interest group funding model legislation and lobbying efforts across the country.

For the purposes of scoping this study, I focused primarily on students who were enrolled full-time within a virtual school and teachers who were employed full-time at a specific virtual school (rather than at a company that contracted with a variety of schools). I wanted to understand how virtual schools operated as organizations and how people related to them as such. However, these distinctions are not firm. Several teachers I interviewed who had previously taught at locally based charter virtual schools had begun new positions at companies untethered from specific school affiliations. Students enrolled in one virtual school were sometimes taking courses developed and taught by someone at another virtual school or at one of these companies. At times, this seemed to be the trend – away from the centralization of a given

organization, towards the network of various elements. As others have argued, this arrangement challenges the very nature of schooling, moving towards an increasingly consumer oriented model and away from education as a locally grounded public service. However, for those I spoke to, many still were embedded within a community and an organizational frame, often one that was a fundamentally public institution and accredited by and accountable to the state and federal government. While I do not deny the extent to which the education landscape is increasingly privatized and disaggregated, I also contend that it is important to understand the lived experience of embeddedness and connection many participants in virtual schools experience, to various extents. I also found that organizational heterogeneity mattered greatly for how students, families, and teachers experience schooling. A major argument of my work is that virtual schools are not monolithic. By attempting to briefly describe each of the following schools and its particular characteristics, I hope to set the groundwork for the coming analysis that explores how the particular choices each school makes shift the meanings of the virtual schools and how participants are able to use them.

Getting to Know the Schools in this Study

In addition to the school I am calling Lake Hybrid Charter School, described in the preface, the majority of my participants were involved with five other schools, all of which, unlike Lake, conducted the instructional portion of schooling fully online. A few participants were affiliated with other schools or had been in the past. Here, I briefly describe each school using a pseudonyms. Tables listing the basic characteristics of each school and the primary affiliation of each participant can be found in the appendix.

Pelican School

The Pelican School burst onto my radar in 2018 when they made headlines for effectively firing a teacher who was organizing a union campaign at the school. One of the oldest virtual school networks, Pelican School operates as a state-run public school district available to students across the state, which is in the South Eastern U.S. Teachers are employed by the state, but are not covered under the same labor agreements as other public school teachers. About two-thirds of the way into the Spring semester in 2018, the school had suddenly changed their policy on out of state workers. Abruptly, they told approximately thirty teachers who were living out of state that they had 30 days to move back or their contracts would be terminated. Many interpreted this as anti-union retaliation against organizers, like Kate (T1), who lived out of state. They noted that some out of state teachers were allowed to stay in a seemingly arbitrary decision making process. The unionization drive failed, and Kate sued the school in protest of her termination for refusing to move back.

Pelican had in-house platform and curriculum development. Teachers could submit suggestions about curriculum but had little control over its end result. Functionally, Pelican acted in a similar fashion to the large charter management organizations like Bluebird Inc., selling courses to other schools or individuals that wanted ala carte offerings. Pelican had three programs for students – a full-time in-state school, a part-time program for in-state students enrolled in local schools or homeschooled, and a private program where out of state students could enroll for a fee.

Eagle Academy

Founded as a public, non-profit charter school, independent from charter management organizations, Eagle was grounded in the principles of the open educational resources movement. Barbara (E11), the principal, explained, “We have more autonomy than a district/neighborhood school because I report directly to my board of directors, but we are still beholden to the same rules as a district school and function under the public education umbrella of the state board of education.” They used an open learning management system which had been purchased by Blackboard, a company that made many of the platforms used by schools for online classes. Their curriculum was developed by their teachers, who made their resources available broadly for use by others. As a public charter school, they enroll students state-wide.

Bluebird West

The charter management organization I’m calling Bluebird Inc. is one of the largest virtual school networks in the U.S. They provide platform, curriculum, and organizational structure for hundreds of local charter schools around the country, as well as private schools. They also package and sell their curriculum to other districts. Students attend “live lessons” and complete asynchronous course modules.

Several participants in my study teach at Bluebird West – a non-profit state-wide network entirely reliant on the for-profit Bluebird for structure and curriculum. Within Bluebird West, the network is further broken down into regional schools that enroll students from several neighboring counties. Teachers at Bluebird West ran a successful unionization drive, becoming the first (and as far as I know, only) virtual school teachers’ union.

Cardinal Pacific

Similar in structure to Bluebird, Cardinal is another national CMO, run by a powerhouse academic publishing company. A rival of Bluebird’s, Cardinal has had less scandals, perhaps because of the legitimacy it is granted by its academic publishing legacy. Cardinal’s materials emphasized the high quality of their curriculum and boasted about the awards they had won in this area.

Ivy High School

Affiliated with an elite university, the selective Ivy High School had won awards for being one of the best high schools in the country. With a tuition bill of approximately \$14,000/year¹¹, Ivy emphasized their low teacher-student ratio and focus on active learning and critical thinking. At

¹¹ When reviewing draft excerpts from this dissertation, Catherine (T2) noted that tuition has since gone up in an effort to make the school financially sustainable. She explained that Ivy High School determines their tuition in comparison to other similarly nationally ranked private institutions and finds that it is consistently less than those they consider peers. She also mentioned that “a significant number of students are on scholarships of some sort,” and pointed out that “calling this a ‘hefty’ tuition is a little misleading. It might be hefty relative to some schools, but it is not relative to others.” I’ve removed that descriptor.

Ivy, students were required to attend daily synchronous classes, though some allowances were made for student athletes, performers, and others whose schedules conflicted with course times. Students were located all over the world and were required to go through a rigorous admissions process. Students had the option to fly into the university campus for orientation and end of year events, combining their day-to-day online routine with these occasional intensive in-person activities. Catherine (T2) noted in her review of this description, “The students love these in-person events (and we have been sorely missing them since COVID), but not everyone is able to fly in.” Teachers developed their own curriculum, eschewing any pre-made models. Many teachers had doctorate degrees. Teachers were initially required to work on-campus for the first year of their employment.

Other Schools

The remaining schools that participants interacted with were a mix of types. Jane (T6) taught at a private school that was far less expensive than Ivy, almost entirely asynchronous except upon student request for assistance, and utilized Bluebird’s course infrastructure. Amanda (T23) taught at a state-wide charter run through Bluebird, though by state law, only students who met a certain GPA threshold were allowed to attend. Lisa (G4) had sent her daughter Sarah to a state-wide charter school run by Bluebird, though like Lake, they had changed management, and were now using another third part provider that connected students to classes that might be taught by teachers anywhere in the country. Kate (T1) had gone to work for a similar company after leaving Pelican. These companies provide the curricular resources for schools that chose to use them. Since our initial conversations, Kate’s employer has opened their own accredited private online school. The Lake School also made use of these companies after breaking away from Bluebird, functionally using third party course modules in a similar fashion to textbooks, while teachers maintained their classroom plans. Molly (G7) used yet another distance learning service intended for homeschooling parents with her son. As is perhaps clear, these schools and companies would frequently overlap – Jeff (T9), teaching at Bluebird West, told me that they would also use curriculum modules – what Jean (G1) referred to as a “course in a box” – purchased from Summit Learning, developed by the Chan Zuckerberg Initiative.

Conclusion

Through my research, I was able to develop a provisional understanding of the diversity of meanings virtual schools hold for many people and the wide range of practices that take place within and around them. I learned about many of the core tensions that participants in virtual schools navigate, and the many elements both internal to and external to the schools themselves that influence their structure and functioning. I found that debates over virtual schools often function as a proxy for many other issues – privatization, quantification, inequality, labor. And while I was not able to spend extended periods of time with participants, I was able to develop a sense through their narratives, and sometimes in our ongoing conversations, of how virtual schools fit into the broader experience of their lives. In particular, my interviews and observations facilitated an in-depth awareness of the experiences of teachers in virtual schools, a group too often overlooked in discussions around the topic. In the following chapters, I lay out many of the details I encountered in my data collection and provide my analysis on how things fit together. I hope this can be a fruitful contribution to the ongoing conversations in this field.

Chapter 3: Exit Strategies – Motivations / Inciting Incidents

Overview: This chapter examines the appeal of k-12 virtual schools for individuals who participate in them, and the implications of these desired qualities for the U.S. public education system. Drawing on inductive analysis of interviews and participant observations at virtual schools and related industry conferences, I explore three primary motivations of teachers, students, and parents who choose to participate in virtual schools: *distancing*, *balancing*, and *focusing*. Virtual schools and their advocates frame these motivations in terms of the individual, but they are largely a response to structural failings and deliberate disinvestment. Both dominant (white, middle class, Christian) and minoritized groups are affected by these structural issues (albeit differently) with the result that they may see virtual schools as the better option. This process allows virtual schools to transfer many of the risks and responsibilities usually involved in public schooling away from the institution and onto individual teachers, students, and families. Yet, it also maintains a bridge between the state and those who might otherwise be completely disconnected from it. In seeking to understand why people choose to be a part of virtual schools, I challenge critiques of remote learning that focus solely on academic performance or curricular formats, suggesting the unmet needs virtual schools attempt to fulfill and the factors that contribute to their rising popularity.

“I’m able to witness what school has done to my children ...
and it’s clear that it’s been a detriment”

- Dr. Awo Okaikor Aryee-Price, quoted in Melinda D. Anderson’s *New York Times* piece,
“You’re out of your mind if you think I’m ever going back to school”

“Doing telemed for most of pregnancy was a game changer. I slept at night. I ate regular meals. No one at work tried to assault me. I got to drink water and sit down and use the restroom when I needed it. We need to talk about what working in a hospital asks of our bodies.”

- Dr. Shannon McNamara, Twitter

<https://twitter.com/ShannonOMac/status/1343274048822923266>

"I believe what people mean is, I chose this off a short list of lousy options.
But there's still agency in that, and agency is precious."

- Katie Mingle, “According to Need, Ch5: Housing Finally”

“Participants come with varied agendas,
which do their small part in guiding world-making projects”

- Anna Lowenhaupt Tsing, *The Mushroom at the End of the World*: 132

Setting the Stage: Believers in Virtual Schools

Lisa calls in to our interview from her car, her voice taking on the creaky quality of a speakerphone connection with the occasional engine roar in the background. She’s driving home with her youngest daughter Sarah, whose education is the impetus for our conversation. Like almost all of the parents I spoke to, Lisa wants me to know her positive feelings towards the object of my inquiry: “I’m excited for your project, because we’re believers in virtual schools!”

There was a time when this outcome might have come as a surprise to Lisa, a white woman in her fifties who lives in the South-Eastern United States and now has four adult children, ages 22 to 37. The eldest three attended traditional public schools, and that had been Lisa's original plan for Sarah as well. But Sarah graduated two years ago from an online charter school she had attended for almost ten years, since the school first opened in their state. In order to explain why, Lisa goes back in time to 1998, when Sarah was adopted and came to the U.S. from China. Throughout her early childhood, Sarah experienced what Lisa calls "developmental challenges," without a clear diagnosis. In elementary school, Sarah had trouble reading and struggled socially, navigating what Lisa now recognizes as sensory processing issues. Pausing as she deals with a "traffic situation," Lisa explains that Sarah's elementary school focused only on the behaviors Sarah was exhibiting, not what might be behind them or what interventions might best support her. "She never got services, therapy, for all of that," Lisa recounts. At first, Lisa tried appealing to the school to provide Sarah with more services. "In hindsight I can say, I should have taken her out of that environment earlier and let her have a place that was a better environment fit. But I didn't know that at the time. Then I was trying to get them to give her [services], without even knowing how to ask for it." Instead, the school responded to Sarah's behavior with various disciplinary proceedings. "Because everybody was so focused on the behavior, she was spending a lot of time away from the other kids, with the counselor, or the vice principal, or whatever." This didn't sit well with Lisa, who felt this system was denying Sarah's access to academic instruction to which she was constitutionally entitled and which she was more than capable of engaging with. Unfortunately, the school didn't see things that way. For two years, Sarah's school tried to convince Lisa's family that their daughter should instead be sent to a behavioral institution targeted towards children with disabilities. Lisa resisted, horrified at what she saw in those programs.

They call it therapeutic supports, but there's no actual therapy going on there. They're behavioral places, and they're not schools, per se. So, they're not held to the school standards of monitoring curriculum. Nobody monitors the graduation rate. When the state's office of accountability actually went in and tried to piece together data on graduation rates [her daughter interjects, inaudibly to me] – exactly, only 9% of the population out of – in those systems, you know, were graduating. In other words, schools can feed their kids that are most – that have those challenging behaviors to those places, and they don't – nobody monitors what's happening there! I had visited several times. It was very behavioral oriented ... on a point system, and they had restraints, and they had seclusion, and they had all kinds of things that I knew were going to just escalate her behavior. So, we opted for two years to keep her out of that.

But the school continued to insist. "They said, you know, we're not giving you a choice, this is what our IEP team has decided ... After two years of dancing, they just put their foot down and said, this is the only place that we feel that fits her. And they basically wanted her to try and fail at that place before they would consider something else. And I wasn't willing to let her do that, emotionally." That's when Lisa and her family "chose to fight."

After an uphill court battle with their local district, Sarah's family lost their case. The state sided with the school, saying that Sarah could not remain in her local school and refusing to provide the funds to send her to a private school that might offer a more supportive environment. In order

to avoid a restrictive institution, Lisa had to quit work to stay home with 10-year-old Sarah, and as she tells me, “we kind of did our own thing for a year, sort of haphazardly.” That’s when Lisa saw the post in a Facebook group she was in for “special needs moms who were advocating on behalf of their children” about a new option coming on the scene in the state school choice landscape – a virtual charter school just opening in their state. Lisa jumped at the opportunity to once again provide Sarah with a more standardized academic structure: “we walked through the door saying we want in, from the beginning.”

Introduction

As virtual schools at the K-12 level have grown and developed in North America over the past twenty years, scholars have expressed mounting concern about the quality of education students in these institutions are receiving, noting poor academic outcomes, questionable pedagogical techniques, perverse financial incentives, inadequate oversight, and limited empirical research (Barbour 2018; Molnar et al. 2019; Burch and Good 2014; Figueiredo-Brown 2013; Schneider and Berkshire 2020; Rooks 2017; Woodworth et al. 2015; Barbour, Miron, and Huerta 2017; Gill et al. 2015; Ahn 2011; Ahn and McEachin 2017; Farhadi 2019). While the bulk of this commentary has focused specifically on online charter schools, many of these issues also apply in both private and district or state-run schools, which may even contract for curriculum, software, and staff from for-profit education management organizations that run networks of online charter schools. Critics of virtual schooling often charge the enterprise with re-animating a system of educational stratification where students who are disproportionately subject to structural and inter-personal violence are lured or coerced into sub-par options for the benefit of for-profit corporations, a process interdisciplinary scholar Noliwe Rooks (2017) terms “segrenomics.” This sobering and compelling examination offers a disturbing rationale for the motivations of virtual school developers and the policymakers that enable them. Virtual school growth in this context is part of a broader trend of privatization that many argue severely threatens the sustainability of public education and its democratic aims (Schneider and Berkshire 2020; Horsford, Scott, and Anderson 2018; Rooks 2017; Burch and Good 2014).

However, approaching virtual schools within the broader landscape of the American education system requires understanding how the complex patchwork of local policies and practices come together to form a narrow set of “choices” for any particular student. Some states have mandated that all students must take some online courses, and some schools have begun incorporating online courses among their offerings as a cost saving measure, broadening the pool of students for virtual schools. But this explanation does not provide the motivations of the many students and families who are enrolled in virtual school full-time who have other options, at least on paper, including their local public school district or homeschooling without any institutional involvement. Virtual schooling is far from the default. Similarly, while some teachers came to virtual schooling primarily because it was the job they were offered (even if they would have preferred a traditional setting), others seek out virtual schools, often taking a pay cut or risking other benefits to do so.

Further, the National Education Policy Center report “Virtual Schools in the U.S. 2019” states that “Virtual schools enrolled substantially fewer minority students and fewer low-income students compared to national public school enrollment” (Molnar et al. 2019, 4), complicating

the picture of virtual schools as solely or primarily targeted to minoritized students with few alternatives. And scholars have convincingly shown that schools with poor academic performance outcomes, limited financial resources, and even predatory financial structures can still have meaningful benefits for students and communities that are not reflected in traditional metrics (Ewing 2018; McMillan Cottom 2017; Schneider 2017). Even when intrinsically detrimental, institutions' value to individuals may be directly tied to broader social forces that incentivize their existence, such that a focus on eliminating them without broader social and policy reform would likely result only in development of a similar structure. In other words, "bad" schools may serve a variety of needs for students, families, and teachers. Close attention to the stories of those on the ground at virtual schools can help unravel this situation.

This chapter begins to explore these nuances, presenting a picture of virtual schooling that respects the agency of those who inhabit these institutions while recognizing the structural forces that shape and constrain their decisions. This matters in part because the reasons people end up in virtual schools, and what that journey looks like, have differing policy implications. Those in virtual schools show us many of the points at which students, families, and teachers feel they are being failed by traditional schooling. By attending to their experiences, we create space for more specific interventions that address these perspectives and further collective goals. In learning about the circumstances in which virtual schooling proves helpful to some people, decision-makers and advocates can better determine when and how to integrate digital platforms into education separated from the profit motives of leading companies in the field.

Thus, in this chapter I begin by outlining the three major reasons people choose virtual schools for both education and employment, based on my inductive analysis of the interviews and observations I conducted. The first reason is a means of *distancing*: removing themselves from perceived threats to their safety and well-being. The second is a form of *balancing*: minimizing the extent to which school or work structures their lives, in order to devote more time to other responsibilities or interests, like caretaking, religious education, health issues, passions, or other employment. The third rationale for participating in virtual school is as a way of *focusing*: centering pedagogy and learning over other aspects of schooling and searching for participant's vision of the "best" version of schooling available to them.

These rationale apply both to students and teachers. This is perhaps less surprising when we consider that one paradigm of education in the contemporary U.S. is of human capital development (Roberts-Mahoney, Means, and Garrison 2016), where schools are primarily figured as training for the workplace (Lipman 2002). Although they are positioned differently within schools, students and teachers face similar pressures and prevailing narratives in their experiences. While teachers might have a modicum of control over the students in their classrooms, they are themselves subject to restrictions imposed by school leadership and government policies. Teachers certainly have institutional power over students as they are directly granted the authority to discipline them and are able to determine key aspects of students' fates with professional assessments. Yet as will be discussed in depth later in this dissertation, the fortunes of teachers and students are in many ways inextricably linked. This is particularly true in the in-person classroom, where the two groups share space and similar daily routines. For parents who make decisions about their children's education, there is also a direct link to their own histories of schooling and desires for a particular kind of family life – the same

holds true for adults working in schools.

Many of the rationales for selecting virtual schools map closely to the reasons people choose homeschooling for students more generally. For teachers, there is also close resonance with the explanations people give for pursuing employment in the “gig economy” and other pathways that enable working remotely and/or asynchronously. However, while some of the core motivations are the same, virtual schools enable an expansion in the circumstances under which people are able to pursue this strategy, extending the option to a wider group of potential participants. In the following discussion, I look more deeply into why virtual schools *in particular* become a way for participants to reach their goals, as opposed to other avenues.

I find that participants are able to use virtual schools to achieve their goals because of affordances including remote learning, asynchronous engagement, flexible deadlines, one to one instruction, and access to particular curricular materials, including those produced by third parties. This compilation of qualities includes both criteria that virtual schools themselves provide and ways they reduce restrictions to allow participants to enact their own approaches.

I move from these initial patterns in the data – how people articulated their own and other’s motivations for getting involved with virtual schools – to consider the source of these desires. Participants’ perceptions are shaped by a combination of their personal experiences and cultural narratives around school safety and quality, parenting, and the possibilities and limits of digital technologies.

Finally, I examine the broader implications of these findings. This process allows virtual schools to transfer many of the risks and responsibilities usually involved in public schooling away from the institution and onto individual teachers, students, and families, who have differential resources to address these tasks. Yet, it also maintains a bridge between the state and those who might otherwise be completely disconnected from it.

“there’s so many reasons” – Common-Sense Rationales

As I discuss in the Introduction, and as scholars have laid out in detail, public schools in the United States have been tasked with competing goals and burdened with providing for a wide variety of basic human needs while simultaneously being deprived of resources appropriate to the massive scale of such a project. To briefly summarize the pattern discussed by numerous historians, social scientists, and policy experts, when schools or other public systems fail to act as a silver bullet to solve a plethora of social ills, they are frequently punished by being denied “resources and authority,” creating a self-fulfilling prophecy of incompetence (Rose 2014, 9). With further diminished ability to meet the ever-growing list of institutional aims imposed on them by public expectation and state requirements, schools are then positioned as failures in need of intervention, generally by the private sector, which can then profit from the state funds allocated towards schooling by cutting costs through reductions in services (Cuban 2005; Horsford, Scott, and Anderson 2018; Schneider and Berkshire 2020; Rooks 2017). This process is at the heart of neoliberalism, which Greene (2021), drawing on sociologist Loïc Wacquant, defines as:

a political project wherein an activist state repurposes its institutions to define and enforce citizenship around market demands. This requires not a shrunken state, but a reengineered one ... The neoliberal state absorbs and redirects the state capacities [such as subsidized housing, healthcare, pensions, and other social safety nets] created by the Great Society (34).

In other words, underfunded and held to impossible standards, public schools are often labeled as broken and dismantled as private companies are brought in promising improvements which they often fail to deliver, in large part due to the tension between shareholder interests and democratic goals.

Even absent profit motives, however, schools operate such that many students, as well as teachers and families, find their needs, identities, and desires denigrated or ignored. There are many different avenues through which people attempt to address these concerns as they arise. Virtual schools position themselves as, and are understood by many of those involved with them to be, one alternative to in-person schooling that addresses a wide variety of common issues people experience in traditional public schools. In her dissertation study of online schools, education policy scholar Regina Figueiredo-Brown (2013) found that while once aimed primarily at “advanced” students, “Online schools now market their programs specifically to students with academic or other needs that place them at-risk in traditional systems” (3).

Whether or not virtual schools *succeed* at meeting the needs of these students, teachers, and families (on average or in a given case) and the validity of their approach to doing so is contested. For her part, Figueiredo-Brown finds that “Practitioners are still using online technology to deliver an education system firmly rooted in conventional school practices” (165), and thus mirroring familiar exclusions. Yet it is important to recognize that the diverse needs that attract people to virtual schools are not a fiction created by industry advocates. In this chapter, I discuss how the people I spoke with framed their reasons for participating in virtual schools. Almost all discussed the circumstances that brought them to virtual schooling through the lens of perceived deficits in the current arrangement of conventional schooling. Attending to these realities is crucial for considering how to craft educational and other public systems that address these needs and, especially those of people who have experienced the greatest harm and marginalization within dominant school systems. This is true whether such systems will ultimately involve digital technologies and/or other approaches.

Most of the rationales discussed here will not be surprising to anyone who has spent time thinking about or interacting with virtual schools. As I will discuss, many of these motivations are celebrated by virtual school advocates and agonized over by policymakers. In fact, the Evergreen Education Group and the Foundation for Online and Blended Learning (FOBL) (2017) put out a report aptly titled “Why Do Students Choose Blended and Online Schools?” which lists categories of reasons for participation – *Academics*, *Social-Emotional Health and Safety*, and *Interests and Life Circumstances* – that are on a surface level almost identical to my grouping of *Focusing*, *Distancing*, and *Balancing*. I was first alerted to the report when at the iNACOL conference in fall of 2019, which I will discuss at various points throughout this chapter. Another attendee came by the table I was sitting at for one of the networking sessions and began chatting with someone at my table, who I had been in friendly small talk with. She

described my project to him and he grinned, asking me what I was finding. I cautiously mentioned some of the basic trends discussed here, such as safety and mental health concerns. He told me they had found the same thing and recommended that I read their report, handing me his card. I waited to read the report until after I had written a draft of this chapter because I didn't want to let their framing orient my analysis. However, when I finally looked at the results of their report, it helped me understand something I had been grappling with since the beginning of this project – the way that participants would frame the reasons for students' attendance in virtual schools as a collection of anomalous individual experiences. This trend provided an interesting counterpoint to much of critical literature discussed at the beginning of this chapter, which largely emphasizes large-scale policy decisions, structural barriers, and average outcomes. Here, despite references to broader social forces, the reasons for attendance were framed primarily as a matter of consumer choice, as finding a match between student, family, and school. When I asked participants about people's motivations for being there, or how they came to be enrolled there, they would often give me a list. That list became very recognizable to me. Across states, across types of schools, there was great consistency. Everyone might not say everything, but very rarely did anyone include something in that list that was original. For example, Amy (T21), a teacher at a large charter network on the Pacific coast, told me,

I've had such a variety of students ... our school has had Olympic athletes, and child actors, and also kids who are really, really sick and in and out of the hospital all the time and kids who had a lot of bullying at their previous schools. Then just kids who don't feel safe going to where their schools are because of all the different school shootings that have gone on in recent history. There are so many reasons we get students in our schools ... It works well for some of our students who have had teen pregnancies or have to work a job to help provide for their families and things like that. There's a lot of flexibility to it that provides a lot of options for students whose normal school day doesn't look like a normal school day, whether that because of being an athlete or having certain jobs or because of health issues.

Amanda (T23), a teacher at a rival large charter network on the East coast, similarly explained,

there's so many reasons. I think for the number of students we have, there's a number of different reasons ... We have students who've been bullied in the brick-and-mortar schools, so their parents want them at home to kind of work through that and work on their self-confidence. We have professional athletes. We had a girl motorcross student who trained and stuff during the day ... We have gymnasts that attend – you know, they do gymnastics during the day for 6 hours and then they school after that. We have families who've chosen for religious reasons, again, some of them attend other religious schools and do our school on top of that. A lot of military families choose our setting because of the relocations that they have. We have some families who, the dad travels a lot, and so the family wants to be able to travel with dad, with his work, and they can take schooling with them. So, there's a wide range. We also have students who have medical issues that school with us from home. Those are just a few off the top of my head.

These students are positioned as deviations from the norm – those who need special circumstances that cannot be accommodated or accepted within the traditional school

framework. Virtual schools are framed here as a kind of overflow space, meeting student needs when they have nowhere else to turn. The Evergreen/FOBL report captures this list succinctly and clearly, and like me, they have abstracted a variety of specific reasons or inciting incidents into broader rationales. The report frames the answers to its eponymous question in these words, giving a streamlined version of the list I heard over and over again from my participants:

- *Academics* (p.8) –
 1. “Students who are behind in school and need to catch up.”
 2. “Students who are doing well in school but feel they are not challenged”
 3. “Students who feel that traditional school is ‘a bad fit’ for a variety of reasons”
- *Social-Emotional Health and Safety* (p.11)
 1. “Physical health issues”
 2. “Students who have experienced bullying”
 3. “Mental health issues”
 4. “Students whose traditional school is physically dangerous for them”
- *Interests and Life-Circumstances* (p.14)
 1. “Moving/switching schools”
 2. “Jobs, internships, and college courses”
 3. “formerly homeschooled ...allows the students to work primarily from home”
 4. “Travel or moving”
 5. “Non-academic activities (sports, dance, music, theater)”
 6. “Death of a family member or another life-altering event”

The report discusses each item in greater detail, emphasizing, as I do below, what elements of virtual schools appeal to such students and their families. Their methodology appears to include a small survey, some interviews with students, case studies of particular schools and their materials, and review of some existing literature. This empirical approach of representing how students and their families conceptualize what virtual schools offer them, and why they are seeking that, is critical for weighing the distribution of costs and benefits of virtual schools.

There have long existed myriad programs within in-person schools to address the situations listed. Accelerated, independent, and modified courses of study, distance learning programs, mental health and mediation services, paraprofessional support, and extra-curricular activities offered by local schools, districts, or states are nothing new. Some of these efforts have lately been converted to digital platforms. Yet in other cases, some people have found these options alternatives inadequate or inaccessible, and instead turned to virtual schools.

In asking crucial questions about why virtual schools, and especially those structured by private enterprise, often become the answer in these situations, it is vital not to brush aside the reality of these needs and desires. While many participants I interviewed think highly of their virtual schools, many believe only that they are the best option currently available to them given their priorities and constraints. Feeling abandoned by the traditional school system or privileged to be able to reach beyond what it can offer, they use virtual schools to manage the structural constraints on their lives, even when that means foregoing certain supports and resources provided within brick-and-mortar environments. In this chapter, I provide a deeper look at these perspectives.

This is not to say, however, that these issues exist in isolation. This is another area in which my focus diverges from that of the Evergreen / FOBL report. As is evident in the wording above, this report is adamant in its framing of virtual school motivations as being centered on individual students. This is a common theme in social imaginaries regarding virtual schools, but it is incomplete – it shifts attention from structural challenges and shared social life to locate difference and need – whether positioned as deficiency or genius – within one person. Thus, even families are practically absent from the “student-centered” reasons given. This stands in contrast to other virtual school advocates, who specifically emphasize parental authority and discretion (see Kamenetz 2018), but similarly redirect focus from broader communities to individual family units. The language of the FOBL report emphasizes the student’s experience, skills, and qualities, but mostly refrains from engaging the network of actors and structural forces who shape those student feelings, actions, and experiences. Even in the “formerly homeschooled” formation, the focus is placed on the student’s past experience and their location, rather than on their family’s ideological beliefs or their parents’ preferences. As sociologist Tressie McMillan Cottom (2017) writes in the context of for-profit colleges, “Economists, education researchers, and marketers are blithely calling these competitive pressures ‘consumer demand,’ an essentially neutered designation. This label strips these processes of their political conditions, making them seem like natural and unavoidable choices made by individuals” (115). And the experiences and motivations of teachers fall entirely outside the report’s purview, missing opportunities to understand close connections between the experiences of those working and studying in schools. Finally, I have attempted with my categorization and explication to move beyond grouping of inciting incidents to further analyze what kind of response those incidents engender. By labeling these moves *distancing*, *balancing*, and *focusing*, I attempt to call attention to the fact that these responses could be otherwise in reaction to the same or similar sets of circumstances, should conditions exist to support them. My hope is to de-naturalize these moves – not to criticize them, but to remove the taken-for-grantedness that so often accompanies the listing of reasons why students enroll in virtual schools while also recognizing the magnitude of these concerns.

Safer at Home: *Distancing*

When the COVID-19 pandemic hit the United States, schools across the country closed their doors, with many transitioning to remote learning. While these moves continue to be debated, the underlying logic remains clear – in the face of a dangerous virus, both teachers and students would be “safer at home,” as LA county named their order regarding COVID-related closures and restrictions. Yet many families had already concluded that traditional schools were risky places for them to be and made the choice to transition to virtual school for either employment or education. For students, these cases reflect what sociologist Jennifer Lois (2013) calls “second-choice homeschoolers,” where “children were not thriving in conventional schools but the alternatives were out of reach” (58). Among my participants, a common pattern among those who fell into this category was to start out in traditional public and brick-and-mortar schools and exit following some crisis or intractably harmful conditions. This maps to Mary L. Gray and Siddharth Suri’s (2019) findings that beyond access to income, workers turned to digital labor in the gig economy “because they felt that it offered an escape route, or at least a temporary relief, from the pressure and hurdles they had come to associate with a more typical day job” (94-95),

which could include sexual harassment or on the job injuries resulting from demanding physical labor. These participants wanted to get away – traditional schools, as currently constituted, were harmful places for them. In virtual schools, the harms participants try to get away from included: physical violence, social cruelty, educational neglect, and stigmatizing labels.

The shape and magnitude of these problems took different forms depending on the person and their circumstances. For these students and their families, virtual schools represented a kind of last resort, an escape hatch allowing them to flee the problems of their default local schools. However, participants in virtual schools have differing perceptions as to what makes a school, or a situation in general, a bad or unsafe option. Safety is often invoked by those with power to justify social control and segregation, even as these same systems do violence to those who are classified as “dangerous” (Browne 2015; Hoffmann 2021; Spade 2015). As feminist STS scholar Mitali Thakor (2019) puts it, “Ensuring the security of some entails producing the *insecurity* of others” (205). This pattern is prevalent in both schooling and technology. Browne (2015) demonstrates how contemporary practices of surveillance, including pervasive data collection, biometric identification, and aviation security are shaped by and perpetuate anti-Black racism. Engaging work by Toby Beauchamp and Chris Gilliard, Information scholar Anna Lauren Hoffmann (2021) notes how demands for public safety are materialized in technologies like airport body scanners that “position some bodies as ‘normal’ and others as ‘anomalous’ or dangerous” and transportation apps that are “encoding racist articulations of what constitutes danger” by directing users to avoid certain geographic areas (4). Education professor Maia Cucchiara (2013) finds that for many white and middle-class parents, the dominant construction of local public schools as “unsafe” draws on racist beliefs of Black students as inherently dangerous and deep-seated anxiety about their children’s economic prospects. These widely-held prejudices and wide-spread ways of organizing social life inevitably influence (consciously or not) how people understand and respond to situations where they are frightened or hurt.

At the same time, minoritized students, teachers, and families experience the dangers of school as part of broader structural violence and disinvestment. Rooks (2017), in her strident criticism of virtual schools, notes that in places where school funding had been slashed, “School buildings became so unpleasant that virtual education almost seemed like a respite” (146). As Pattillo (2015) argues, school choice under these circumstances represents “limited individual agency” as “the search for a quality school was frequently motivated by push factors away from bad options, rather than a voluntary interest in searching out new schools” (54). Of course, although some groups of people bear the brunt of these problems due to rampant social inequality, violence and precarity are also endemic to contemporary American society at large, meaning that negotiating these risks becomes core to many people’s ways of organizing their daily lives. These elements play out in participants’ descriptions of using virtual schools to implement varying and contested forms of protection.

“I need my child to be safe and alive” – Violence and Escape

Some participants transition to virtual school out of fear for their bodily safety. Emma (T17), a white math teacher at a virtual charter school in the Rust Belt, said that what she liked best about her school was “the safety factor.” She explained further,

It's just a safe environment, not only physically safe, because with all the craziness with the mass shootings and the violence in schools and the fights and the weapons, there is nothing dangerous about attending school online. I think that is what brings, right now in today's society, a lot of people to look at online learning as an option. I like that. I like that it's safe for the kids.

This conception of the home as sanctuary from the otherwise dangerous space of the school recurred frequently in teachers' narratives about why students choose virtual schools, and as an explanation of why virtual schooling was necessary even if a student was unlikely to be academically successful there. These understandings included not just the school itself, but the network of places one was required to pass through in order to access a physical school. Schools were both part of the broader community, such that violence in the surrounding area was part of what it meant to go to school, and schools held their own threats. Lily (T8), a white social studies teacher at Bluebird West, explained of one student who was doing poorly,

But she is scared to go to the school in the school district where she is – because it's a bad school, there's gangs there, and she's already been bullied there. And so, really trying to figure out, should you keep this student here, who's obviously not performing well, but then what's her alternative? That she goes to this other school, where she could be physically hurt? I think those situations are the hardest. ... But then again, your alternative [to the virtual school] is something that's literally unsafe... I don't want to push the kid to an unsafe environment, either.

For the teachers and staff at the Lake School, drawing students from across a large city, this was a core theme that recurred again and again in discussion about the value of their school for students. Beth (E6), a white staff member and parent of former students at the school, echoed this understanding of why parents come to virtual schools, even when they might be ill equipped to support their children's progress within them: "Yes, I want my child to be successful, but yes, I need my child to be safe and alive, and so this is the option that I choose so I can go to work and make sure that they're OK." Several of her colleagues shared similar conceptions about the thought process of their student body families. David (T12), an Iranian-American math teacher, painted a stark picture of the virtual school as the only hope for connection beyond the domestic sphere for those in "bad neighborhoods": "a lot of the kids that I teach don't leave their house." Ruth (T16), a white teacher who had been with the school since it opened twelve years earlier, shared this narrative: "we have a lot of families who have come here because their home school isn't safe, which you understand." Jill (E4), a white guidance counselor, explained frankly that while she didn't necessarily think the online model was ideal pedagogically for many students, she felt it was a rare escape from violence in a school landscape that had horrifically failed to protect students of color, and thus a necessary alternative to preserve. She remembered one of her earliest interactions with a parent of a student who was not completing her work and had "gone off on" her. Jill (E4) recalled, "this was one of those learning experiences for me as a white woman that I'd never—I don't know. I've never had to think a certain way." The student's mother had told her, "I don't care if my kid's not doing work. She is not going to the local school because kids get shot and killed there. She will go to this school and you will deal with it." Years later, she felt she understood the position that family was in better. "Can you imagine having to make that choice?" she asked.

Sending your kid to school to learn and having them get shot or sending them to an online school where maybe they'll have their shit together or maybe—but they're safe. I know where they're at and they're going to live. Those are my alternatives. That's ridiculous to me. I love this school because I love having a space for kids who have not felt safe or have not felt like they can go into a school without being approached by gangs or being afraid of getting shot.

Many of these narratives were shared by white teachers who lived in the suburbs in reference to Black and Latinx families who lived in the city. It's possible that these explanations might stem from stereotypes these teachers carried, especially about predominantly Black neighborhoods. Due to limitations in my sampling and recruitment, I lacked any participants who could speak directly to this motivation for their families. However, many of these teachers, like Jill, spoke about coming to understand these realities through conversations with the families who experienced them directly. There's also research that supports the idea that these safety concerns exist and are not evenly distributed. Sociologist Carla Shedd (2015) points out that in a survey of Chicago Public School students regarding their perceptions of safety, African American respondents were those "reporting the most pervasive sense of danger" (35) both inside and outside the school building. She writes, "a strong majority of students attending schools that are predominantly (more than 85 percent) African American or predominantly Hispanic feel unsafe outside those schools and when traveling between home and school" (36). White and Asian students and all those in schools with higher percentages of white and Asian students reported "starkly different perceptions of their school environments" (ibid) with significantly lower perceptions of insecurity.

This perspective was further supported by Nicole (E5), a Black woman who unlike many of her colleagues, had grown up in the city and attended its public schools, as had her adult daughter. Working at the front desk of the Lake School and as the assistant to the CEO, she told me that in her opinion, "brick-and-mortar is going to fade. We are becoming more and more of a tech society. From the shootings, the violence that goes on at the schools, parents are getting to the point they're afraid to send their kids to school. Students have to be educated." Like her colleagues, she also echoed fears students might have about the process of getting to and from school, "Some people are scared to come out of their house to go to school due to shootings, the violence in the neighborhood. That's an advantage of hybrid learning." Day after day, I watched parents and students and staff confide in Nicole. She was the first person people spoke to when they called to inquire about enrollment. She would talk to students while they waited to be picked up or when they needed a quiet place to work and talk to parents when they waited for their children to get out of class. All of this led me to give additional credence to her assessment that some families might see virtual schooling as a way to ameliorate their worries about school safety. While virtual schools did not themselves provide any protection for these students, they could act as a vehicle for staying away from situations perceived as dangerous. Enrollment in virtual schools here indicated a lack of trust in the state to make change or provide protection. The availability of virtual schools allowed families to maintain a form of safety for their children, but a very circumscribed one. They did not solve the problems of violence but removed these students from some situations in which they could be at risk. With both home and classroom positioned as spaces of refuge, these participants believed virtual schools offered a

way to bypass the physical dangers of moving between the two by collapsing them into one. As the comments of several of these teachers indicate, virtual schools were not positioned here as a utopian paradise. These teachers were sometimes skeptical of the value virtual schools provided for these students, suggesting they might be receiving a sub-par educational experience. But they were convinced by the arguments of their students' families that any loss in educational quality was made up for by gains to physical safety. Yet this meant that for those made most vulnerable to physical violence by policy choices, their only recourse was framed as self-protection, and they were consigned to what some of these teachers perceived as limited academic opportunities.

“Dude. That sucks. That is racist.” – Structural and Identity-Based Violence

As Lisa and Sarah's story at the opening of this chapter shows, violence can come in institutional and structural forms as well as inter-personal ones. Certain people are more likely to be subjected to harm in schools and their surrounding networks due to pervasive racism, classism, ableism, homophobia, transphobia, and Islamophobia, and other forms of systemic oppression. In addition to being made more vulnerable to generalized threats because of social hierarchies, these students might be seeking to escape brick-and-mortar schools where they face identity-based discrimination and violence. For example, while sociologist Sarah Miller has found that practices adults classify as bullying are wide-spread among adolescent girls (Miller 2016), the content and impact of bullying can vary for different groups of students (Boyd 2014; Miller n.d.; Xu et al. 2020). The GLSEN 2019 National School Climate Survey found that “59.1% of LGBTQ students felt unsafe at school because of their sexual orientation, 42.5% because of their gender expression, and 37.4% because of their gender” (Kosciw et al. 2020). Sociologist Jessica Calarco (2018) has found that teachers are more receptive to helping middle-class students in the classroom and more likely to reprimand working-class students for their bids for attention and assistance. Monique Morris (2015) and Ann Ferguson (2000) have shown how schools actively criminalize Black girls and boys, respectively. As Shedd (2015) explains, “Schools have long been understood as places of ‘formation’” (33), vectors of social sorting that create the perception that some students are inherently deficient while others are inherently gifted, justifying the unequal distribution of life chances (Hernández 2016; Willis 1981; Oakes 2005; Lipman 2002). This is true even of schools that actively claim to be different, innovative, and/or seeking to counter oppression (Sims 2017; Shange 2019). When Shedd discusses the dangers Black and Latinx students face in attending Chicago schools, she points out that the threats arise not only in the immediate neighborhoods students inhabit, but also in their commutes to schools that are farther away from their homes, which may “subject the student to greater scrutiny, surveillance, and violence – either physical or symbolic” (40). Police are frequent perpetrators of this kind of violence, both inside and outside of schools. Teachers and administrators also often hold racist stereotypes of Black and Latinx youth as inherently violent, contributing to the “school to prison pipeline.” Racialized students living in or crossing through predominantly white neighborhoods may also encounter the psychic, administrative, and sometimes physical violence from community members who perceive them as not “belonging” (Shedd 2015).

So, schools can be dangerous places for students because of identity-based harassment, discrimination, and marginalization, and students subject to these harms are also more likely to encounter inter-personal violence even if not directly targeted based on their identities. There is some reason to suspect that some of the targets of this kind of violence might turn to virtual

schools as a way to manage the threats to their well-being.

In 2009, a Minneapolis based educator began an online school specifically targeted to GLBTQ students (MPR News 2009) following the model of the Harvey Milk High School in New York City in creating a separate educational space for LGBTQ+ students. At a conference I attended where I mentioned my research, I was told about a gay student in a recent documentary who mentioned attending school online. I also found testimonies on social media of students describing turning to virtual schooling in order to escape racist classrooms.

In a study regarding the motivations and experiences of Black home-schooling families, Fields-Smith and Williams (2009) found that “of the 24 Black home educators interviewed, 19 attributed their decisions to home school on perceptions of, or experiences with, inequities, prejudice, discrimination, or racism in public and private schools” (376). They find that Black parents often “described their motivation to home school as a way to protect their children from the limited possibilities and opportunities schools seemingly present to them” (385). Following the covid-19 pandemic’s forced shift to remote learning across the country, journalist Melinda D. Anderson (2020) and others have documented Black parents’ disproportionate desire to keep students home from school and the realization of many parents that virtual schooling might provide a reprieve from constant racism experienced within schools. Anderson reports that when Dr. Theresa Chapple-McGruder asked a Facebook group focused on Black parents, “What do you like about virtual schools?” “one respondent wrote, referring to school resource officers, the law enforcement officers who work in schools, ‘There are no S.R.O.s at home.’” Thus, trying to find some refuge from racism can also be a compelling reason to exit traditional school options. Further, Anderson points out that Black parents can monitor virtual classrooms for racist content or interactions, and more easily intervene.

Despite these many indications that students and families might use virtual schools to mitigate their experiences of racism, homophobia, transphobia, and other forms of systemic oppression, these narratives are largely absent from my data, just as they go unmentioned in the FOBL report. As I discuss in my methodology chapter, I believe this is a limitation of my sampling and recruitment, rather than suggestive that these stories are rare or not present in virtual schools. There are also hints in the data that may speak to these kinds of experiences. While this threat of structural and identity-based violence usually went unmentioned upon by the mostly white teachers I interviewed, Jill (E4) emphasized that experiences with school violence could be institutional in nature: “When I say ‘bullying,’ I don’t even mean just kid-on-kid bullying but teacher-on-kid bullying or administration-on-family bullying.” Jill recognized that these prior experiences with hostility from school leaders could make parents and students wary of trusting school representatives.

She also framed questions of student safety within a broader understanding of how social and political choices have created differentially unsafe environments for students that amount to structural violence. She recalled the experience of one student who was new to the school. A few years previously, he had been “doing great at his local school; so good.” He was getting As on his report card. “They had all kinds of programs they were offering him. A [city public] school.” Then, she said, something changed. For reasons unclear to me, he had to change the route he took to go to school because of a decision the city made. Perhaps, like many students in the city,

his previous school had been closed, and his new school was in a different location. Either way, now “there was a gang he had to pass on his way to school.” His performance at school took a dramatic turn, she explained: “This last year he missed—if you look at his report card—he just started missing more and more days. He ended up missing 50 days. He’s truant. Failing his classes.” So, he transferred to the Lake School. As in other instances of threatened violence, Jill recalled his mother saying, “He’s not going to get involved in a gang. We’re going to keep him safe, so he has to go here.” But unlike in some of the cases with my participants where things became radically better with the shift to the virtual environment, Jill saw the continued strain on the student from his experiences and felt helpless to address it. She shared,

He comes into us. He’s depressed. He has to come into us. No one’s talking to him about that. I want to be like, ‘Dude. That sucks. That is racist. That is because of your situation and the city [the city’s name] – that’s depressing.’

Jill identified the “choice” to enroll in a virtual school as a direct result of the political choices of the city, which had generated and nurtured violence in predominantly Black and Latinx communities, thus leaving the student’s family with limited options for safe schooling. She noted that the student’s family was managing this situation the best that they could as individuals by enrolling him in the virtual school, “She’s addressing it in that way. He’s loved and he’s cared for. Steps are being taken, but outside of that, for people that don’t love him ... who’s telling him that that’s not okay? That’s not right?” Here, Jill lays out not just the constraints under which families are making choices about schooling, but also takes a moral stand that it’s wrong for him to be pushed into making this choice under these circumstances, because those circumstances are rooted in the racism of government policies. Expressing these thoughts, however, is taboo. She feels she cannot articulate her belief in the racialized pressures he is facing. To do so would perhaps come up against the dominant narrative of school choice as an individual responsibility and autonomous decision. Jill also felt limited by her background, believing that as a white person, she could not offer the student the necessary level of understanding based in her own experiences. However, despite feeling that this student should not have to face the circumstances that have brought him to the school, given the current structural conditions, she is glad the school exists, though she wishes they could go beyond the basics of “survival” mode:

Being a school that provides a space for kids so that they can, at least, feel like they’re in a school environment and they’re safe and they deserve better, I like that. I like being a part of that. I do feel like we’ve been that for a lot of students. I wish we could do better and provide them more of what they deserve. It’s pretty low level, like surviving skill.

Given that Black families often face structural barriers to school choice, Pattillo (2015) refers to this situation as “a weak form of empowerment,” because families make a decision largely in the absence of access to responsive political institutions (46). Virtual school provides here an accessible alternative to the child’s default school, but this option only becomes attractive in the face of structural disinvestment.

While Jean (G1) did not mention identity-based concerns, she echoed the narrative of teachers themselves as sources of violence. She explained that for her child, attending virtual school was a way to escape the power dynamics that pervaded the traditional classroom by minimizing her interactions with educators:

I think that in some ways that she saw teachers as just authority figures, who had authority because they had authority and not because they had a lot of knowledge about the thing that they were trying to relay to her. And so, she was very perceptive of the fact that these were just modules that were coming at her. There were often times in her face-to-face classes that the teacher was not correct. And she was aware of that. And so, seeing these online spaces, it was just here's a module of information and not an interaction between two people.

As I discuss in the “focusing” section, it is also clear that prior bad experiences with schooling in general can shape the desire to create an ideal learning environment for one's children, and this can include negative experiences shaped by structural disparities. Engaging in virtual schools was often a conscious choice, then, for families to distance themselves from the school and the violence they had experienced there, including violence that has its roots in structural oppression.

“I'm going to keep her safer” – Bullying and the Protection of Home

In addition to fears about frequently occurring community violence that might surround and infiltrate the schools, parents also pointed to forms of violence they associated particularly with the school setting. Bullying was a frequently referenced rationale for leaving the brick-and-mortar environment, and school shootings and sexual assault by teachers also loomed large in the imagination and indirect experience of those who chose to remove their children from the physical classroom.

For one white stay-at-home mother of three, Allison (G2), at Pelican School, the immediate impetus for pulling her children from their local brick-and-mortar school was first-hand experience with bullying. Upon moving to a new town, her daughter, Maddie, then in fourth grade, began to be bullied by another girl in her class. Allison became aware of the situation because of the dramatic changes in Maddie's behavior: “She was getting straight A's and by the middle of the year, we were struggling with D's. She would hold it together every day and I picked her up and she'd just completely break down in the car, sobbing.” The bullying included “threats that shocked me as a parent,” Allison explained. “The girl would threaten to split her head open with a baseball bat. Would just every day walk by her and punch her or tap her on the arm.” When she tried to approach the school about the problem, though, the only solution they would offer was “basically punishing Maddie just to keep this person away from her,” limiting the classes she could take or keeping her from going outside during recess. The only protection they would offer her was isolation and further restriction. Meanwhile, as far as they could tell, the other child suffered no consequences. Allison remembered,

We went to the school every single day. We asked to have sit-down meetings. It got to the point where they were finally like ... we have a zero tolerance for bullying. They had nine things listed. My husband said, zero tolerance, this child has done every single one of these things and she's still in school ... They wouldn't even meet with us until the school year was over.

The teacher would claim that Maddie was instigating the conflict and make her move, otherwise

largely refusing to intervene. Allison thought there was a reason the school refused to confront the offending child – “the dad had come up screaming and yelling at the teacher” before, and she believes the teacher “was truly afraid” of how he might react if his child was accused. As Allison put it, “they just were trying to keep the dad under control.” For Allison, this was further cause for alarm on Maddie’s behalf. Without stronger intervention, she feared things could only get worse. The physical layout of the school itself troubled her because it was an “outdoor campus,” limiting the amount of social surveillance when students moved between buildings. To make matters worse, from Allison’s perspective, there was not a consistent school resource officer on the campus – the district shared one officer who rotated between schools. She believed, and Maddie clearly felt, that the student who was bullying her was motivated enough to find a way to continue to torment her, because “the teachers can’t be there all the time.”

Feeling they had exhausted their options with the school, Allison decided there was no way Maddie, who was physically sick from the stress, could return there the following year. The last week of school, she went to the staff and said, “Well, you don’t need to worry about us coming back.” Furious, she did not hold back on her read of the situation, saying “I don’t trust you with my child. I don’t think she’s safe here.” She reiterated to them, “I don’t think that she’s safe in your school program. I don’t think that she’s safe within the county.” After that, she says, “They tried to talk us out of it because the county has provided so much money per student. I said I’m going to keep her safer, and if she chooses to want to go back, she can. It was very traumatic for her.”

Allison and her husband spent the summer agonizing about what they would do now that their faith in the school was demolished. They wanted an answer not just for Maddie, but for their older son, who was feeling ambivalent about school more generally, and their younger daughter, who they wished to spare from the kind of ordeal that Maddie had undergone. When another mom on her son’s football team told Allison about the state’s virtual school, they decided to try for all three children. Immediately, Maddie’s grades shot back up. Allison remembered with relief, “It was back to the person that we knew. She wasn’t afraid to do stuff.” And yet she also noted the lasting effects of the bullying, saying that Maddie, now 17, still struggles with social anxiety stemming from that year.

The family was far from alone in pointing to bullying as their motivation to exit traditional schools and enter into virtual ones. Emma (T17), a teacher at a virtual charter school in the Rust Belt region claimed, “about 50 percent of the students that I talk to, maybe even more, they mention bullying when I talk to the parents about why they’re sending their kids to online schooling.” Virtual schools emphasize this motivation, framing these environments as saviors for traumatized children. Even though Allison had found a way to escape the initial source of Maddie’s anxiety, the lasting trauma is a constant reminder of why they chose to leave brick-and-mortar schools behind.

This experience blended with news coverage to feed into Allison’s overall perception of school violence. In the course of our interview, she recited a litany of fears associated with traditional schooling, including school shootings and child sexual assault, with “worry” appearing eight times throughout. This array of safety concerns contributed to an overwhelming sense that public schools are dangerous places. She believed that teachers in brick-and-mortar schools were “put

on guard because you're waiting for the bad stuff to happen. Whereas the teachers for [Pelican School], they don't have to worry about somebody walking to their classroom and shooting it up." Allison's decision to enroll her children in virtual school arose from a broad sense that public in-person schools were ill-equipped to address the challenges they faced. Collective solutions were out of reach. She explained,

I don't know if I would ever feel comfortable putting my kids back into public school ... You should feel safe at school, and I don't necessarily think the public schools have the resources to allow that to happen right now.

Of course, resources of public schools are in part determined by the enrollment of students there, as Allison noted. Students who exited the local school system took state funds with them, leaving behind a system theoretically less equipped to address their concerns than before. Some students are considered more valuable to schools than others. Calarco (2018) has demonstrated that parental advocacy in traditional schools is typically differentiated by socioeconomic class, and that school administrators and teachers are more likely to take middle- and upper-class parents requests or demands seriously, because they rely on their financial and logistical support and recognize the power their enrollment has in a district which receives funding on a per pupil basis. Allison felt she could not wait any longer while her daughter suffered – the best way to protect her children was to keep them at home. In the absence of structural change, she took it upon herself to provide the safety that she felt the state could not. Her choice further eroded the capacity of the state to develop alternatives, including for students whose families might not feel that home education was a possibility for them. Yet the calculus for the school district might not be so straightforward. While losing Maddie and her siblings meant losing state funding, and potentially private funding from Allison's family and others like her, it also alleviated pressure on the school to make change. As Allison put it, they no longer had to "worry" about the constant meetings and demands. Virtual school allowed Maddie to continue to access instructional elements from the school district, while substituting Allison's caregiving labor for that of the school.

"try to bring them in some way back into the fold" – Religious Communities

Another source of danger, in the eyes of some families, was the secular nature of public schools. David (T12), when describing reasons students attend the Lake School, briefly listed "religious kids, people whose parents don't want..." then he trailed off and moved on. Several teachers mentioned amorphous "religious reasons" students were attracted to virtual schools. Lily (T8), who teaches at Bluebird West, gave a typical reference to this population: "we also have a large group of people who are religious at our school. A large group of Muslim, as well as Christian, who ... don't feel like the school is best projecting their values and morals." For many, religion being the impetus for homeschooling was almost common-sense. According to the 2016 National Center for Education Statistics survey, 51% of respondents (parents of homeschooled children) reported "provide religious instruction" as one of their reasons for homeschooling (Coalition for Responsible Home Education 2013). Further, 80% listed "a concern about environment of other schools," which in addition to the other areas described here may include those grounded in religious beliefs. What might be objectionable about traditional schools that would be improved in a virtual school environment was vague, perhaps out of discomfort with

discussing the subject with me. Possibilities include: 1) the ability to monitor children's behavior more closely, to ensure they are abiding by religious doctrines, 2) the removal of children or teachers who might be a 'bad influence' on the children, either by advocating for a generally secular outlook or by promoting activities that go against a family's religious beliefs, 3) maintaining sex-segregated spaces, 4) the ability to immediately intervene around curriculum that contradicts religious beliefs (such as evolution).

Amidst discussion of continuing distance learning due to the COVID-19 pandemic, UC Berkeley English Professor Grace Lavery [tweeted](#), "One reason I'm so anti-Zoom is that I teach classes in queer and trans studies, where part of the point is to handle ideas that the family home renders unthinkable. My undergrad students say things that, were they to say them in their parents' houses, might expose them to harm" (Lavery 2020). Virtual schooling provides a means for families to monitor their children's education and intervene when they don't like what they hear. This can include countering secular explanations that go against a family's religious beliefs. For example, while parents expressed dismay and frustration about their children being taught evolution as factual history, virtual school allowed them to address the topic with their children and frame it differently. Kate (T1) recalled receiving annual complaints from parents whenever the topic arose, but found that most families accepted her suggestion to simply have their children complete their required work while explaining to them that this worldview was in opposition to their beliefs. Ashley (G5) found it hard to help her sister understand the divergence between their religious beliefs and the school sanctioned perspective. "There's been a lot of question time," she said about working through her sister's science lessons that week. Ashley explained that they would stop the lesson when her sister became confused about why "the test questions went 100% against our religion." While Ashley wished the school would not push the topic, her presence allowed her sister the opportunity to filter the lesson through their religious perspective in the moment it arose.

Even with a secular curriculum, within virtual schools, parents could connect directly with teachers to screen their comments, exert influence, and make connections. One parent at the Pelican School, Grace (G3), believed that the school she enrolled her children in was initially a private "openly Christian" school. I couldn't find evidence that this had ever been the case, but the main difference she noted was that now, "it's not all Christian teachers anymore." This suggests that perhaps early on, the school's primary population of students were evangelical Christians, and teachers who fit that category might have been more likely to discuss their religious beliefs with families. Grace's experience suggests that being in a community of people who shared her religious beliefs and values was more important than specific curricular differences. With virtual schooling, she was at least for a while able to keep the secular population at a distance.

The majority of parents I spoke to mentioned the role of Christianity in their lives and several spoke of being called to homeschool by God. For some, taking care of their children directly was a religious and cultural responsibility and privileged role. Several had considered Christian schools when making a decision for their children. While some religious parents specifically choose virtual schools that are religiously affiliated as part of their broader efforts to maintain a particular religious community for their children, those in my study were all enrolled in non-religious institutions. What can explain this choice? If parents are concerned about the influence

of secular environments and willing and able to take on the responsibility of childcare during the schooldays, why not select a religious option? Education scholar Michael Apple (2006) offers one explanation, arguing that some evangelical families choose to utilize virtual schools in order to arm their children with the resources to dismantle the secular state by providing exposure to the logic and processes of the enemy from within the safe harbor of the Christian home and motherly guidance and protection. Families in my study shared with those Apple analyzes an emphasis on mitigating the dangers of schooling through the protection of the home while continuing to gain access to school curriculum. But their motivations were often less strategic. Most religious schools cost money. Homeschooling without an outside curriculum or professional instructors was a lot of work. And many parents wanted to ensure that their children had educational credentials that would be broadly accepted by colleges and employers. Virtual schooling allowed them to keep out some of the things they wanted to exclude, and add in some things they wanted to elevate, while achieving an equivalent degree, keeping them from being institutionally marked as different.

What went largely unspoken, but implied, was what might happen to these students and those who attended religious schools full time (who I mention in the following section, but who certainly had overlap with this group) if virtual school were not an option. While some of these students might receive private tutoring or be enrolled in private religious schools that also teach academic subjects, there was the specter of another possibility weighing heavily in the air when these students were discussed – that without virtual schools, they might not receive any academic support at all. Aaron (T22) put it bluntly, “we have quite a few kids who go to religious schooling and, if it weren't for our school, wouldn't get any Gen Ed education.” Beyond access to the educational curriculum and instruction, without virtual schools such students might also find that their connection to people outside their immediate communities vanished. William (G9), a parent and board member at Eagle Academy who is also a scholar focused on issues related to online learning, spoke of his school as “they're trying to reach some of those parents and students who have traditionally homeschooled, to try to bring them in some way back into the fold.” While families could use virtual schools to expose their children to secular and state ideologies within the frame of their religious worldview, the state could also use virtual schools as an entrance into homes where they would otherwise be banished. Virtual schools served as a bridge to keep those on the margins of the community connected to the state.

“people think you're going to go to online school, and you'll be able to hide.” – Complicating Narratives of Harm

Everyone creates their own narrative about safety. For some of the teachers working in virtual schools, parents' claims of protection were suspect. Rather than keeping their children safe, they suggested, some parents might be damaging their children by refusing to allow students exposure to the wider world. These teachers felt that *distancing* was an inappropriate reaction to the problems these children faced – because they fundamentally disagreed about the source of the problem. While parents located their concerns within the traditional school structure, teachers in these cases located the problems either in the children themselves, or in their parents and home environment.

One concern that animated teachers' perspectives on safety was the knowledge that many

children experience their homes as sites of harm. In the U.S., approximately 670,000 children are “confirmed victims of child maltreatment” each year, according to the Annie E. Casey Foundation (2021), which includes neglect (75% of confirmed cases), physical abuse (18%), sexual abuse (8%), emotional abuse 6%), and medical neglect (2%). The CDC estimates a much higher 1 in 7 children are annually subjected to neglect or abuse, and grimly notes that in 2019, there were 1,840 deaths of children in the U.S. attributed to abuse or neglect (U.S. Department of Health & Human Services 2021). Children with disabilities experience more frequent and severe maltreatment (Child Welfare Information Gateway 2018). Studies have found LGBTQ youth also face greater family violence than their straight peers (Balsam et al. 2010; Craig et al. 2020; Forge et al. 2018). The categorization of child maltreatment is complex, and the process of reporting and adjudicating child welfare cases is well-established to be discriminatory towards minoritized families (Eubanks 2018; Fong 2020; D. Roberts 2002). Yet there is no doubt that there are many children experiencing real damage at the hands of their families. Many reports of suspected mistreatment come from educators, who, in addition to generally being committed to the wellbeing of children by the nature of their jobs, are frequently required by law to share evidence with the state if they believe children are endangered (Fong 2020). Sociologist Kelley Fong (2020) finds that reporting professionals will contact child protective services even when they do not believe that children are at immediate risk out of a sense of “moral obligation.” Teachers, then, are primed to look for situations where children may be struggling.

In addition, U.S. dominant culture has both extremely high standards for what is considered “good mothering” and prominent stigma towards homeschooling (Lois 2013). These dual conditions open up parents of students in virtual schools, especially mothers, to further scrutiny. Several parents mentioned a general stereotype they encountered about homeschooling children that they were anti-social or otherwise clumsy with inter-personal interactions, a well-documented trope (Lois 2013). Upon hearing that a child was homeschooled, parents would often face concerned inquiries about the child’s socialization. Although Lois (2013) has found that many mothers are driven by the ideology of intensive mothering to begin homeschooling, following the belief that they are “the best person to raise a healthy, well-adjusted child” (7), the majority of people may not interpret this injunction as directive to mean that children should be homeschooled. The dominant narrative several parents told me they confronted was that it was inherently good for children to be in school in order to learn appropriate social behaviors and become comfortable with other children. Keeping children at home was viewed with suspicion. Bystanders would wonder, how will they be able to assimilate into the broader community once no longer under their parents’ wings? Beyond academic achievement, they saw school as a necessary step towards adulthood and being part of a broader community. Sophie (G6) recounted that she had always wanted to homeschool her son, but her family, particularly her brother, would say, “Oh, no, no, you don’t want to do that. He’s going to be a freak, blah blah blah.” She felt pressured into enrolling her child in a traditional school and mentioned frequent “shaming” she encountered about her desire to homeschool.

Homeschooling parents wrote these views off as misunderstandings. They would indicate the opportunities their children had for formal and informal socialization (often through church or athletics, sometimes in local neighborhood encounters or other extra-curricular activities based on the children’s interests). Parents quickly pointed out favorable comparisons between their children and others still in traditional school, and argued that students in virtual schools had to

exhibit greater responsibility and maturity than their peers at brick-and-mortars. In fact, they suggested, their children were in part better behaved because they were able to avoid negative influences in the classroom. They were doing their children a service by curating their social experiences. Not only were their children escaping becoming the targets of violence or bullying, they were also here prevented from ‘breaking bad’ by having limited exposure to clique-ish, slothful, and cruel youth cultures. Some of these parents would likely recognize themselves more in the *focusing* category discussed below, as they were not so much fleeing bad situations as trying to cultivate preferred ones.

Depending on the way teachers interpreted the student’s skills, demeanor, and behavior, however, they might view the rationale and effects of virtual schooling differently. When teachers expressed these concerns, they focused in on a particular sub-group of their students – those they perceived as being disabled. Teachers’ secondhand descriptions of parents’ reasoning for sending these children to virtual schools ranged from a broad paranoia about social life to a more specific concern about what would happen if their child was classified as disabled. A number of teachers referred to this practice as “hiding” – arguing that families were hiding their children from view of the school and thus the apparatus of the state to intervene in their family. Natalie (E10), a white counselor at a state-wide virtual charter school in the Mountain West, explained, “people think you’re going to go to online school, and you’ll be able to hide. There’s this virtual barrier, and it’ll be like a distance ed program where you’re sending things in the mail, and nobody ever sees your face, and nobody knows your name, but it’s really not like that.”

The same action that parents here saw as protective, teachers often saw as harmful. At the Lake School, Dina (T10), a biracial teacher in her thirties who worked with elementary school students in need of additional support in reading, spoke of “extreme sheltering” as a reason parents might choose to have their children enroll in virtual school. She described children in these circumstances as having a “lot of either social emotional, or academic weaknesses. Like, major.” And then went on, “They’re so ashamed, or they’re so afraid, of putting their kid in a school, where they’re going to like, get run over. So, then they just stay home. We get a lot of these, like, weird cases – I don’t know what other word to use. They’re just very unique kids. Like a kid didn’t even know how to use a drinking fountain. It was – shocking.” I asked what it was that made such families comfortable coming to their school, given their reluctance more generally to expose their children to the outside world. She explained that it was the minimal amount of time spent outside of the home, because students were only required to come into the physical school building for a half a day each week. “They can be home the other parts of the week. They’re still sheltering their kid in that way, it’s like a comfort zone.” Parents who were reluctant to expose their children to the potential dangers of school could begin to feel like virtual schools offered a safe space. But this comfort was fragile. What teachers perceived as necessary assessments of student skills were seen by parents as attacks. Dina said,

They get very defensive. Or they just have no idea how far behind their kid is. Like, if their kid has never set foot in a school. Wow! She’s reading at a kindergarten level and she’s in third grade ... Of course, no parent wants to believe that their kid has a disability, but they’re so out of the loop.

Another teacher at her school, Ruth (T16), told me about families who were actively running

from the diagnosis of disability itself. Receiving a clinical diagnosis allowed students access to an “individualized education plan,” which meant that they could work with the district to adjust a student’s educational requirements and access additional services, like more time on tests or working with specialists. But for some parents, the stigma of the label outweighed their desire to have the opportunities the IEP would provide. Ruth explained in frustration:

[We get] a lot of people that they’re just hiding ... we also would get kids where the parents would say to me, or to another teacher, ‘Well [the former school] wanted to give him an IEP ... and I didn’t want that, so I left.’ So they’re trying to avoid a label, when their kid really does need services ... [they are] hiding from being identified as having a learning disability or special needs. I can give you an example of one parent who brought her kid here because he had dysgraphia ... She’d been told he had dysgraphia and dyslexia but she didn’t want him to have an IEP, so she brought him here. We tried to, again, get him [services] – she wanted services for him but without the IEP we can’t provide services. But ... at least if he’s here, than she can help him at home.

This mother felt she could use the virtual school architecture to make up for lack of additional services that an IEP would unlock, by providing additional support to her child herself. For many teachers, this was not a sufficient replacement.

Teachers and parents in these cases had fundamental differences in their belief about what would create safety for the children involved. For teachers, classification enabled access to services they believed to be necessary for a child’s wellbeing and education. Parents were concerned about the stigmatizing effects of these classifications. McDermott (1993) has described how schools are organized to produce distinctions of disability, to create the category of learning disability and sort children into it. In her study of children who use iPads as augmented communication devices, Alper (2017) explains that the dominant model for understanding disability in the U.S., and thus the one that suffuses the U.S. educational system, is the “deficit model,” a framing that locates a problem with the individual rather than the society that fails to meet their needs. She states that the deficit model “emphasizes what people with disabilities are thought to lack, and this absence becomes their defining trait...disability diminishes an individual’s life” (108). By keeping their children out of traditional schools, parents evade this labeling and keep their children from being “run over” by shame. As Lisa’s earlier description makes clear, these harms may be not only psychological but material, when restriction is framed as support. Further, as Fong (2020) has shown, when teachers are concerned about a family’s ability to care for their children, they are known to turn to state investigators who can exert “the threat of coercive intervention” – removing children from the home – in pursuit of getting families access to, and getting them to accept, “therapeutic support” (611). Even when investigators do not determine children to be in imminent danger and separate them from their families, such action expands domestic surveillance, “engenders acute fears among mothers,” and “strains relationships between families and the service providers responding to them” (ibid). In other words, parents, especially those in communities often targeted by the state for sanction, may be wary of educators’ well-intentioned attempts to access services for their children because they have learned to associate these gestures of care with the horrific threat of having their families broken apart. And while teachers wanted to be able to use IEPs to help students access services, many parents shared the difficulty of accessing appropriate services when one does

have an IEP, in traditional or virtual schools. Parents who had experience with the ways their children are discriminated against based on their perceived disability have reason to be nervous about further abetting this process.

Teachers sometimes focused their frustration about this on the idea that with parents helping students at home, the student's individual abilities would be obscured. They often saw this as a form of neglect – a refusal to allow students the opportunity to learn and grow. But as suggested by the end of Ruth's quote above, families in this scenario might think the opposite – that by finally giving their students the support they needed, their children were only now getting a chance to get an education.

Other teachers feared that in some cases parents might be abusing their children and using virtual schools as a way to avoid detection. The Coalition for Responsible Home Education warns that while certainly not the norm, homeschooling can provide this kind of cover, allowing abusive families to minimize opportunities for discovery by removing the potential scrutiny of the in-person classroom. Calo (2018) notes that in such circumstances, claims to privacy can heighten vulnerability by covering up abuse. These accusations are controversial. At a conference promoting personalized learning and digital education, I began chatting with another participant in line for the taco bar. She told me she was a homeschool liaison from Idaho, coordinating students' educational trajectories between the district and homeschooling families. Before I considered what I was saying, I exclaimed, "Oh, you probably get this all the time, but I just read a book about homeschooling in Idaho – *Educated*, by Tara Westover." I felt her suddenly grow cold and still, and I instantly realized my mistake. *Educated* (Westover 2018) is a memoir of a woman whose family largely refuses to provide her any form of schooling on religious and ideological grounds, and also repeatedly places her in physical danger. By bringing it up in this context, I understood belatedly, I was implying that homeschooling, particularly when inspired by religious belief, was inherently damaging. Worse, my interlocutor had, in passing, referenced her family's Mormonism, and Westover's parents in *Educated* claim to be practicing a radical form of Mormonism, despite Westover's insistence that her story is not a critique of Mormonism at all. Trying to fix my error, I scrambled, "Of course, really the problem there was that she *wasn't* being homeschooled ..." I drifted off. The homeschool liaison, who could have shared a wealth of information about the families she works with and the role of virtual schools in their lives, glared at me icily. She replied that she had homeschooled five children, listing their impressive educational and professional credentials. It didn't matter that I tried to differentiate between the forms of "homeschooling" – the damage was done. Any reference to homeschooling as a cover for abuse was enough to shatter potential trust.

This reputational harm is perhaps even more salient for families who are subject to constant unwarranted supervision of their parenting choices based on race, class, religion, sexual orientation, or other aspects of their identities. For them, virtual school could be a way of alleviating the danger of being wrongly criminalized. One can hide from a monster, or from the truth – two sides of the same coin.

"you're not taking away their education" – Weeding Out

Mostly, people share stories of using virtual schools to get away from the damaging conditions

of traditional schools, however, there are also indications that virtual schools are used to remove those who are seen as threats from brick-and-mortar institutions. The focus on distancing as a means of dealing with concerns about violence and cruelty allowed this proposed solution to come into view.

Many participants spoke about their decision to participate in virtual schools as a means to securing their own safety or well-being, or that of their children, by putting distance between themselves and the traditional school environment. But there are also indications of reversal – the utilization of virtual schools as a way to exclude those seen as “dangerous” or “disruptive” from traditional schools. While Lisa had chosen virtual school as a way to protect Sarah from a restrictive environment, the option of virtual schooling also served as a way to remove Sarah from the classroom while technically continuing to provide her with “access” to a public education. Lisa and Sarah’s story of being pushed out of their local public school is far from unique. Once when I mentioned my project at a conference, I was told that in one state families were counseled by the school district to choose virtual schools when the district came to think that the services their children required were overly costly or difficult to manage. One teacher at the Lake School, Aaron (T22), envisioned a system where virtual schooling was used explicitly in disciplinary cases:

I’m a big believer in education is a right, but the type of education you get necessarily isn’t. If you’re a kid who’s just horribly misbehaving in a standard 25-person class, you maybe shouldn’t be allowed to be in a 25-person class. We’re going to put you in this model where maybe you come in once a week instead of five times a week, and the rest of the time you’re home. Then you can work towards that, and you’re not taking away their education. It’s an alternate situation ... I would love to see that take off because I think one of the problems with education nowadays, at least in [state], is that kids are allowed to get away with more because, for various reasons, we want to give them a second chance and their sort of justice, blah, blah, blah. I think a lot of teachers that I know that have left the profession, behavior is the biggest reason why. I think this could be a solution to that.

Thus, the teachers who entered virtual schools because they feared for their safety, could in this alternate imagining stay put in the brick-and-mortar classroom, continuing to draw a higher salary and with a more secure role, if only the children causing those problems were in virtual schools, instead.

“Let kids escape unsafe government schools.” – Weaponizing Understandings of Safety

Narratives about the dangers of schools, and in particular public schools, aren’t only organically appearing in response to personal experiences. They’re also actively promoted by those looking to advance a right-wing ideological agenda that undermines public schooling for the benefit of private industry, a wide-spread campaign that predates the Trump administration but found additional support during the tenure of Betsy DeVos as Secretary of Education (Schneider and Berkshire 2020). In December 2019, one Cato Foundation staffer laid out a series of tweets with claims that private schools are safer than public ones, arguing, “Let kids escape unsafe government schools” (DeAngelis 2019). A month later, President Donald Trump also used the

pejorative term “government schools” in his State of the Union address (Stewart 2017). Pervasive media coverage of salacious stories of school violence is incentivized to draw viewers, disproportionately discussing cases of sudden, inter-personal violence over long-standing structural crises and lending to the perception of public schools as dangerous places. Allison (G2) reflected on her thoughts about school safety, “You think about all of those things. I know the Parkland shootings really, really affected the kids...I try not to keep [the TV on] – but I mean, it’s on the news everywhere you go.”

Framing public schools as uniquely unsafe thus fits into a broader effort to diminish the legitimacy of these institutions, particularly figured against the family as the site of domestic protection. Of course, as feminist and queer critics have long pointed out, the home itself is far from violence-free, and is in fact a primary site of harm for those facing emotional, physical, or sexual abuse from family members, including targeted harassment focusing on gender and sexual orientation.

Some families thus flee traditional schools because of structural or institutional violence, in addition to physical and inter-personal concerns. The source of the violence is different, but both sets of people want a place for their children to thrive free of danger. But danger in our society is not equally distributed. The concepts of safety and danger themselves have long histories, deployed differently depending on who is framing them. Who is being protected within traditional schools, and who is being targeted? One group sees public schools as *failing to protect* – not doing enough to stop violence from happening, but not actively perpetuating or sponsoring violence. The other sees the schools themselves as the perpetrators. These categories don’t break evenly along ideological lines. One form of perceived structural violence might be omnipresent racism in a traditional classroom, while another might be the belief that the schools are attempting to indoctrinate students into a liberal worldview. These understandings of what constitutes violence share a superficially similar shape – both inflicting a narrow perception of reality and refusing or repressing alternative efforts. While the power dynamics are surely distinct, both subjects see themselves as under threat. The actual possibility of harm, shaped by the weight of historical hierarchies and encounters, radically differs.

Juggling Act: Balancing

“Some students, they just want to be as efficient as possible. They want to get through their stuff. They have their lives. They fit school in around everything else that they do.”

- Barbara (E11)

Other families turned to online schools less out of a search for safety and more as a means to balance their workloads, desires, and needs. As with the narrative of bullied students, online schools market the story that students could turn to them when they need to fit schooling into the constraints of time or distance imposed by other areas of their lives, shifting around the hours during which school takes place. Their pitch: that online schools, rather than imposing a rigid schedule – arrive by the first bell and be marked present every period until the day’s end *or else* – allow students to address their educational needs on their own schedules, wherever they may be. This vision was sold as the answer for students who had some other activity that took priority in their life over schooling, whether by choice or by circumstance. This was appealing for some

students, and also for teachers and staff. Whether because they needed to bring in additional income, who were unable to access the brick-and-mortar school building, or in order to spend more time on another source of meaning and identity, these participants used virtual schools because they were less restrictive than traditional schools and allowed these participants more autonomy in determining where and when school happens.

“He ended up getting a job at 14” – Balancing Work

While traditional schooling is set up on the expectation that it will be a young person’s full-time endeavor, many teenagers are juggling their pursuit of an education with making ends meet. Students who might otherwise pursue a GED or drop out of school altogether could – in theory – complete a high-school diploma with online school instead. Jane (T6) teaches for a private online school serving students around the world using standardized curriculum they purchase from a for-profit company that also runs its own network of virtual charter schools. This school’s model is primarily asynchronous, but students can get 1:1 support from teachers upon request. Students can thus enroll in this school even if they do not have a local public virtual school option, as is the case in many states. When I asked Jane about her students’ motivations for being part of the school, the first thing she mentioned was that many of her students work during the day. She recalled the first student she enrolled, a 15- or 16-year-old with a full-time job. When her student reached out with a question about her geometry lesson, they emailed back and forth about scheduling a time to talk. The student explained that she could only meet at night, outside the hours of the job, in retail or food service, which helped her contribute to her family finances, so they Skyped in the evenings. As they discussed triangles and rationalizing denominators, Jane would watch the student look down at her calculator, concentrating, catching on quickly. Jane remembers the clack of the calculator buttons in action. The student understood the concepts, she explains, but the arithmetic would hold her back, so Jane helped her through it. She was focused, mature, eager to learn, with somewhere quiet to work – the Platonic ideal of a virtual school student taking on responsibilities beyond her years. Despite the financial constraints that pushed her to full time employment while still a kid, it was worth it to her to pay to go to school rather than continue in public school, where no matter how much she worked at night, she would be sanctioned for her inability to attend during the day.

This asynchronous structure and remote access that defines many virtual schools could also present an opportunity for parenting teens, though they are rarely mentioned in marketing materials, or the stories shared by teachers about their charges. Yet the sheen of maturity and responsibility necessary to balance competing pressures rubs off on other students. Kristin (G9) reported of her younger son, “He ended up getting a job at 14” after joining virtual school which left him with several hours of free time each day. Several parents told me that enhanced self-sufficiency and time-management skills are an added benefit of their choice to enroll their children in virtual schools. Under less direct control than in a traditional school, they suggest, these students are required to be more proactive in setting a successful course. Sophie (G6) offered a typical example of the way she felt the virtual school structure prepare children for the working world:

It also teaches you the concepts of responsibility. Because if you don't get something done, it's going to become an overdue lesson, and those can build up. Then it teaches you

how to be responsible and how to use your time efficiently ... it teaches you how, in life, you'll have responsibilities and if you don't do the responsibilities you have, then you're going to get the consequences.

Here, shifting responsibility from the school onto the student to monitor their own performance is painted as a beneficial attribute of virtual schools, which by emphasizing self-sufficiency trains students in practices that will be important to their adult success. Online school becomes here a route to an earlier adulthood, a transitional option for those ready and willing to manage themselves. And even secondary education here becomes a private skill-building exercise. Just as higher education is no longer figured as a public good but instead as an individual investment (McMillan Cottom 2017), virtual schools become a way that even children can learn to balance competing responsibilities to reap individual benefits.

“they can take schooling with them.” – Balancing Health and Family

For some students, traditional school was not a viable option because they couldn't regularly be in the building. They had to balance schooling with parts of their lives that were much more visceral and immediate. To start with, with virtual school, one could attend virtual school from a hospital bed. Chronic illness and disability could present immense barriers to participating in traditional school environments. As Catherine (T2), an English teacher at a private virtual school, put it, “for whatever reason, it's hard for them to be in a physical brick-and-mortar school. Sometimes they're sick. They're very bright kids, but maybe they've got Lyme disease, cancer, or they can't be around kids.”

Although brick-and-mortar schools generally have some procedures in place for supporting students with chronic illness, some families opted to switch to virtual schools in order to provide greater continuity for their children and to avoid having them positioned as abnormal. Other school districts turned to virtual options to supplement or replace those very distance learning programs, removing the need for students to withdraw. At a panel I attended on online learning, a representative from a large Southern district explained that a big issue they face is students who need to go to outpatient or inpatient treatment facilities because of addiction or mental illness, who would have to be away from school for 30-90 days at a time. Offering virtual courses became a way for these students to transition between in-person and online courses, so they were “not so scared, so behind.” In other words, the program offers a way for students to stay connected when distance is opposed upon them by circumstance. Here, they can balance their health needs with the schooling requirements.

More broadly, virtual schools provide an answer for those whose location is frequently changing or remote. Amanda (T23) told me, “a lot of military families choose our setting because of the relocations that they have. We have some families who, the dad travels a lot, and so the family wants to be able to travel with dad, with his work, and they can take schooling with them.” Rhea (G11) had considered homeschooling, but when her husband, a law enforcement officer, was transferred to a remote region of the state, the time was right. The nearest elementary school would have meant a daily commute of over an hour's bus ride each way for their ten-year-old daughter. Despite their inconsistent internet access via satellite, virtual school won out. In addition, she wanted to preserve their “ability to travel,” when her husband had time off.

Whereas they would have had to plan around a traditional school's schedule, doing things this way allowed the school to travel with them. Several participants mentioned the usefulness of virtual schools in allowing them to do work ahead of time that allowed them to take vacations on their schedule.

"It looks like it's geared to kid actors and athletes" – Balancing Passions

Finally, a third group was balancing not making money, supporting their families, or overcoming imposed barriers of distance, but alternative sources of identity and meaning. Some students were building their professional personas as athletes or entertainers. Online schools will often highlight these students, proud of their accomplishments, pointing out that these extraordinary youths should not be considered problematic for pursuing their talents, but should be supported in their efforts. They could be on set or on the field during the day, and complete their lessons at night, or even work on school full-time one week and then take off the next, for example for a musical tour. Tom (C2), a community member who opposed the opening of an online school in his district, told me about exploring the website of the charter management organization, which already ran a network of virtual schools around the state. He explained, "when you first look at it, it looks like it's geared to kid actors or athletes ... It's for kids like that, a champion snowboarder who needs to be training all the time or whatever." When teachers and staff provided a quick recitation of reasons students were attending their virtual schools, these examples inevitably were at the top of the list. Natalie (E10), at a charter school in the Mountain West, framed it as, "Then we have kids that have these goals and aspirations that don't fit into traditional school. We have a lot of professional athletes. We have a couple professional ballet dancers." As mentioned in the discussion of the FOBL report, these students, especially Olympic athletes and others in prestigious environments, were frequently referenced by teachers explaining the demographics of the student population. These students, participants implied, were special. Their unusual level of high-profile success meant that to constrain them to the usual requirements of traditional schooling would be wrong. They needed a way to balance these impressive accomplishments with the mundane responsibilities of schooling, without letting academics get in their way. Virtual schools made that possible. In communities well known as training grounds for professional winter sports, local schools had even set up a system for student athletes where they could attend the local school for half the year, and then attend online during training season. The existence of these students was central to the case that virtual schools have a positive role to play in society.

Here once again we see that the same basic elements can attract some students to virtual schools while being a dealbreaker for others. It is worth noting that as ethnographer Penelope Eckert (1989) documented in her classic study of a U.S. high school, for many Americans, sports are "central to high school culture" and schools go out of their way to organize their routines to accommodate and support star athletes (3). When Chicago officials changed their decision to close Walter H. Dyett High School, a choice which had led to the school offering primarily virtual classes while it was in the process of being shut down, they re-opened Dyett with a focus on the arts, with massive investments in "facilities for dance, textile design, and music" (Ewing 2018, 50). Although not the emphasis community advocates had fought for, this outcome highlights an approach to schooling that makes the case for schools as pivotal to all areas of human development and culture, and as Ewing notes, as fundamental community institutions.

Virtual schools in this case contribute to the unbundling of school elements, implicitly arguing that extra-curricular pursuits are better handled by individuals or private enterprise than through public channels, at least for those who aim to be most successful in these realms.

Continuing the theme of students who were framed as anomalies, outside the norm for American schoolchildren, were those enrolled in full time religious programming during the day, or some number of days a week. Attending online school allowed them to meet their faith based obligations while also pursuing the legitimacy of an accredited education, which they worked towards at night. While these students were often mentioned in passing, at the Lake School, teachers and staff would repeatedly turn with fascination and pride to the group of Muslim students in the school who would spend the 4 days a week they weren't required to be on campus focused on their religious education. Michelle (E9), a current staff member and former parent and board member at the school, told me,

There's one Muslim/Islamic family where one parent doesn't usually pick up the children but did one day and it came up against prayer time. She had forgotten her prayer shawl, so she put her coat on the floor and was praying in the parent room. She explained what was happening, and that she has to hurry, because it takes them an hour and a half to get home by bus. Why are they coming in this far?

To her, this experience was a "moving and powerful display" of the importance of having the school as an option. Michelle said that the parent's religious leader had directed a number of families to their school, and that day, she took home four kids, not just her own. This group was willing to travel across the city one day a week for the ability to attend a school that was compatible with their religious obligations. As a teacher told me, these students would often work for 2-3 hours on weekdays after they got home from religious schooling, and then make up any additional work on the weekends.

For others, their passions generally lay outside of school grounds – art, coding, or working with animals – that was what they poured their heart and soul into. School was about checking a box, meeting requirements, and they wanted to be able to get it out of the way in order to spend the majority of their time on their chosen pursuits. Jean (G1) explained that for her child, who took courses at the Pelican School while also attending her local high-school, school in general was a "series of hoops," but by attending virtually, she could move through the requirements more quickly, clearing time for art and creative writing, supported by an online peer community outside the confines of school. While critics often worry about students in online schools spending so much time in front of a computer, many families feel that virtual schooling provides greater opportunities for their children to move around, be outside, and spend quality time together as a family by minimizing the amount of time school takes up in their day. For example, Hailey (S3) said that she liked having more "freedom" by homeschooling with Cardinal Pacific – "I can go outside more, be with my sister more." Her mother Rhea (G11) expanded on this point:

Now, she's getting stuff done by noon, which gives her the rest of the day to play. When you're in a traditional school ... school starts at 8:00. You have recess. You have class. You have lunch. You have class. You have recess. You have class. You go home. Her six, seven, eight-hour day stayed the same. It was just all work instead of play.

By being in virtual school, students avoid the imposition of standardized routine and families can prioritize the activities they value. Gabe (S) also quantified the time he saved by being in virtual school that could be used for baseball or hockey. He explained, “with regular school, I would get done with my assignments so quick that I’d just be sitting in class for 45 minutes of the hour and 10 minutes. [Now] if I get done with my assignments for the day, week, month, I can go do stuff.”

Time saved through “flexible pacing” could be achieved in part through the switch from synchronous to asynchronous teaching methods and from allowing an individual to be freed from the baggage of classmates questions or hesitations. But as McMillan Cottom (2017) argues in the context of higher ed, online courses are also appealing in part because of easy access to course materials that allow one to complete coursework without a lot of effort. Jean recalled, “All of the questions that she was being asked to answer, all of the PowerPoint presentations, all of the assignments are available out there on the web. So if you had a question about something, it was very easy to find that information, so you didn’t have to go through that process.” McMillan Cottom suggests this accessibility extends even to providing answers for assignments. While this is considered a violation of academic integrity, or cheating, by the schools themselves and is labeled as a serious problem, for students who are focused primarily on achieving a credential, copying answers found online helps them to meet their goals of minimizing the time spent on school. I set up a google alert for the name of the Pelican School and would frequently receive results offering full assignments and answers. This kind of “shortcut” contributes to the idea that virtual schools are academically suboptimal. But from the perspective of students, gaming the system in this way allowed them to balance what was required of them with what they actually wanted. Since changing the nature of the academic enterprise to match their goals feels daunting, these actions are a way for students to manage with the current structure of schooling.

“We just ... believe this is like the ideal.” – Focusing

“I don’t think we’re doing this because we’re unhappy with the public education system. That’s not what it is. We just ... believe this is the ideal. Public education is doing the best that it can, but ideally, this kind of one-on-one self-directedness ... is the ideal learning experience. And for that reason, we as a family and Cynthia in particular, has decided to make the sacrifices necessary to make that happen. And if Charlotte had to go to public school tomorrow that we would be just fine, but we’ve been blessed that we are in a position in some ways to make this work, to make what we think is the ideal experience for our kids.” – William (G9)

Despite their generally poor academic reputation, for some students and their families, virtual schools represent something close to education as they believe it should be. By leaving the traditional classroom, they hope to jettison all the things they felt were keeping them from authentically pursuing the best version of school. For some students and their families, these barriers are administrative and standardized – busywork or test-taking that they didn’t consider true learning or being forced to follow a set structure and curriculum. For others, it is the social atmosphere of schools that degraded their academic experience. What distinguishes this motivation is that it is oriented towards the idea that virtual schools are not just a viable

alternative to traditional schools, but that they could be the preferred option. This does not mean that virtual schooling in general, or the particular school chosen by participants, is their *ideal* choice. It is the choice they make among those available to them – the choice that allows them to get closest to what they want in an educational or workplace environment. Several participants expressed that there might be other options that would do an even better job at achieving their goals, but that those options were out of reach.

There are three things participants get out of virtual schools that make it desirable:

- A Personalized & Engaging Education
- Attention, Support & Social Capital
- No Distractions

However, often it is not actually the virtual school itself that provides these utopian elements, though it plays a part. This is counter to many techno-utopian visions, where advocates have promoted the promise of education technology or innovative pedagogy as inherently resulting in an improved experience, as analyzed and critiqued by scholars such as Larry Cuban (2003), Morgan Ames (2019), Christo Sims (2017), and Roderic Crooks (2016). Instead, participants emphasize a combination of *what virtual schools offer* and *what they refrain from* as what allows participants to flourish. As in the *balancing* motivation, virtual schools can minimize schooling, making it shrink the proportion of time and energy students spend on it. But instead of spending that additional time focusing on their passions outside of school, they emphasize activities that they feel are part of the schooling experience. There is no fundamental difference between these activities and those pursued by those in the *balancing* section, but participants who are *focusing* conceptualize their actions as contributing to their academic training.

Of course, in trying to access their ideal version of schooling, participants are also refuting formats they see as detrimental in comparison. Thus, the lines between this category and *distancing* moves is cloudy, particularly in reference to the elements missing from virtual schools that participants appreciate. What distinguishes this theme is participant's expression of desire to focus in on the ostensible point of schooling, that is, on learning or teaching, respectively, rather than just finding an alternative medium for this practice. Their exit from traditional schooling here brings to the forefront the many things that structure schools beyond pedagogy and curricular engagement in their absence.

A Personalized and Engaging Education

Beth (E6), a white mother of four in her late thirties and an experienced teacher married to a police officer, worked as an administrative staff member at the Lake School. I sometimes spoke with her as she stood in the hallway of the school building during lunchtime, where she would welcome each student she saw by name. We sat down to talk more in a small windowless room off one of the main hallways, where she shared an office with the IT staff. Intermittently she would look down at texts coming in on her phone, explaining that teachers would sometimes text her when they had trouble getting on the wifi. She had first come to the school as a parent a decade earlier, in its early years, when her oldest daughter was in third grade. Before that, she said, her daughter was enrolled in a private school, but “she was bored, she was stagnating, she

started to not like school.” When she flourished at the new virtual school, Beth and her husband decided to enroll their younger children there as well. While both holding down full time jobs, she and her husband acted as learning coaches for their children, working on opposite schedules to make sure childcare was covered. “At one point,” she remembered, “I had a middle schooler, two early ed, probably 2nd grade ... and a kindergartener in the program.” I asked her what it was like for her daughter when she first started. Beth replied,

She really enjoyed the opportunity to explore the subjects that she was passionate about. One of the things that frustrated her as a student was that she loved science. And she wasn’t often able to learn that type of information in a private school. The books were outdated, or there just wasn’t enough time, and in my research with the local public schools, I actually discovered the same thing. Science and History, or Social Studies ... were subjects that were often eliminated — with my favorite phrase ‘we interweave it in the ELA [English Language Arts] curriculum,’ [laughs bitterly] which just wasn’t enough for her.

And knowing that at the time she had the goal of being a meteorologist, in a science related career, I was concerned that she wouldn’t have a solid foundation in those subject areas. I wanted to make sure that she had those opportunities ... My husband and I used it as a motivator – she knew that if she got done [with all of] her subjects, we wouldn’t stop her in science, she could continue. If she had one [science lesson] on the agenda for the day, but she was done with everything else, and she wanted to continue exploring and digging deeper, she could do that. That was really attractive for her. She also really enjoyed the fact that it ... seemed very individualized for her.

I asked what “individualized” meant for them, and she emphasized being able to test in to take higher level courses than those to which she otherwise would have been assigned.

They took an initial assessment prior to being enrolled ... they would determine their math and ELA level based on that score rather than their grade level or age. What was nice about that, is that she was able to accelerate in ELA. Which was beautiful. Again, I know I mentioned that one of the issues with her previous school was that she was bored, and she was directed to the second grade reading books, and she was beyond that. So that was nice.

Beyond being able to skip a grade in a particular subject, Beth’s daughter appreciated being able to control the order of her day. She chafed against the micromanagement of traditional schools.

It was also nice that she could choose the subjects that she wanted to begin her day with, end her day with, there was some flexibility there in the scheduling which was really beneficial for her, because – that choice, sometimes, is a strong motivator ... Any areas that she really got invested in, or really interested in, nobody was there to stop her. There was always an opportunity to dig deeper within the curriculum and to continue to build on the information that she was learning. And I think that often, in a traditional brick-and-mortar school, you have that factor of time and you’re beholden to the schedule, and to what the state recommends that you learn minute wise, and content wise, rather than

what it is that the student is interested in.

Like other parents, Beth pulled her daughter out of traditional school to improve her wellbeing. But she did so with the hope of attaining a better education for her child. What made it better, for her, was that this amount of autonomy supported her children in developing a sense of self-direction. She felt that by determining the structure of their day and being able to expand on what they were learning by themselves, they were strengthening their ability to learn on their own more broadly, rather than relying on external structure, like class periods and school bells. When her children eventually returned to traditional schools in order to participate in extracurricular athletics and streamline the family's schedules, she was comforted to find that those qualities stayed with them. She said of her children,

although they came in without those rote activities of the constant repetition, for spelling and things of that nature, they knew how to learn. Whereas other kids in the class knew how to receive information and spit it back out. That made me feel pretty good.

Permeating the discourse about what makes virtual schools “good” for students as learners, in particular, is the idea that virtual schooling can be “personalized” in ways difficult to achieve in traditional schools. “Personalized learning” is a term with enormous cache in the current discourse about education reform, but one that is hard to pin down (Bulger 2016; Pane et al. 2017). The concept is not new, but the growth of machine learning algorithms and digital content delivery revitalized a growing interest in the practice among many funders, policymakers, parents, and educators. Leading proponents include the Bill and Melinda Gates Foundation, which had funded 62 schools by 2015 that adopted personalized learning practices (Pane 2015) and the Chan Zuckerberg Initiative, which made personalized learning a cornerstone of their \$45 billion commitment (Constone 2016). Major urban school districts like Oakland Unified are championing personalized learning as an appealing alternative to standardization and an attractive option to more efficiently provide support for a diverse range of students (Johnson-Trammell et al. 2014). Chuong and Mead's (2014) “A Policy Playbook for Personalized Learning” makes a typical case for this approach:

By customizing learning experiences to students' interests and learning styles, these models have the potential to improve learning outcomes—giving students more support in areas where they struggle and accelerating their progress in areas where they excel.

But as Bulger, Pane, and others have noted, what this means in practice is largely opaque. This ambiguity allows virtual schools to position themselves as spaces of personalized learning without clearly defining how they customize a student's experience.

The subtitle of the Evergreen / FOBL report clearly portrays the group's investment in understanding virtual school participation as a matter of individual choice that emphasizes students' “unique” needs – they state, “The ‘end of average’ requires personalized learning environments.” In the Foreword, FOBL Executive Director Amy Valentine goes further, grounding their work in the movement to “conceptualize education as a dynamic process that is most effective when personalized to meet learners where they are—rather than where they are

expected to be—along their education journey” (3). This idea of “personalized learning” animates much of the enthusiasm about virtual schools. The logic here, made clear in references to Harvard Professor Todd Rose’s “end of average” phrasing, is that schools have been traditionally designed to serve those at the statistical norm while excluding or disadvantaging those at the margins. In their book *Building Access*, Aimi Hamraie (2017) documents the history of Universal Design, a movement that challenged American institutions and ways of knowing that center on the “normate,” which rather than being simply a descriptive expression of common characteristics becomes held up as the ideal to which others must conform. Hamraie makes clear that the “norm,” in fact, was never actually merely an average of all humans or Americans, but was “rather a particular white, European, nondisabled, youthful, and often masculine figure whose features remain unmarked” (20). They quote Universal Design proponent Elaine Ostroff, who said of traditional designers, “They will continue to shape their designs for a mythic average norm, creating barriers that exclude the contributions and participation of people all over the world” (19). Rose and other personalized learning advocates take up the same language to challenge what they perceive as wide-spread standardization in schooling.

Many participants argued that virtual school was a good fit for students whose learning needs fell substantially outside the “norm.” In particular, teachers and sometimes parents and students would reference virtual school as an important option for students who needed to “catch up” to their peers or the expectations set for their grade level, as well as for those ready to “move ahead” beyond these standards. Here, the relevant elements of the virtual school structure include the ability to read textbooks or watch lectures asynchronously and flexible pacing and deadlines. Students in traditional schools would sometimes turn to virtual schools for “credit recovery” programs, in order to make up a class they had failed and needed to graduate. Others would sign up just to take an advanced class.

But for full time virtual school students, one class was not going to substantially change their experience. Instead, proponents explained, these students needed to be able to go at their own pace in any class. For some, moving through material more slowly was understood to result in deeper understanding. Jane (T6), working at a private school with an entirely asynchronous model, explained, “If they wanted to review a lesson, they could. There was a tutorial. They could sit there, watch it, rewind it, and really be able to take the time that they needed to learn a particular concept.” Ashley (G5), whose experience I will discuss more in the next section, reflected of a school where “you get 365 days to complete the year,” that “I can say we’re going to take the whole year and do it really slow. We’re going to do the whole year and go piece by piece by piece. I like that way of doing it.”

Some things that may have needed to be “personalized” in traditional schooling are available without adjustment in virtual schools. For example, recording lectures and flexible deadlines are common accommodations students might be entitled to under the Americans with Disabilities Act. In virtual schools that provide these affordances by default, students and their parents may not need to advocate as strenuously for these options. Students who may not have an official diagnosis – including for the reasons of stigma discussed above – are here also able to access these auxiliary aids when they become available to all. Anthony (T3), at the Pelican School, explained that managing IEPs at the school was “mostly easy” because of the structure of the school, though early on the school lagged in providing course recordings:

The way the school was set up, we met most IEP concerns just by the way that we did it. If you needed extra time, kind of the burden was on you, to make that extra time ... I actually recorded the entire course as MP3s one year so the kids could download it, because I had so many kids, they needed that assistance ... the most common IEP thing was about time. So, again, that fell to you to create it.

Here, instead of adapting to the specific needs of individual students, the school structure simply provided an option to all students that could also assist those who required that element for a fully integrated educational experience. Hamraie (2017) argues that this has been a trend in the era following the ADA – moving from centering disabled people’s unique and embodied needs towards promoting “universal design” that claims to simply be better for everyone. Hamraie notes that efforts to better accommodate multiple ways of accomplishing tasks within institutions has been simultaneously championed as a project of social inclusion – expanding access to public spaces beyond the “mythic average norm” to instead embrace the diversity of human variation – and as an effort towards “enhancing human performance,” largely with the aim of increasing productivity and profit (42). Giving students the opportunity to take more time to “catch up” to the norm similarly both enables more students to experience the benefits of in-depth understanding *and* permits them to be counted as achieving, benefitting both student and school. As Hamraie states, chillingly, for disabled people, “The price of belonging was mere productivity” (61). If students are able to perform achievement by completing the required work, they will receive equivalent recognition from their schools. Yet this situation demands that they create their own structures of support and expand the amount of time school takes up for them, in order to be equally accepted. These structures remain invisible to the schools, where the model of learning promoted is implicitly one of information delivery to individuals.

Meaningfully, I rarely heard people discuss what the additional time spent on schoolwork in this scenario would be replacing. There is an unspoken suggestion that such time would otherwise be wasted, with virtual school allowing that time to be recuperated towards productive ends. Either way, as P4 states, “the burden was on you,” that is, the student, to “create” the additional time they might need. But as long as you could find a way to do that, the virtual school would let you. As indicated here and as will be discussed further in later chapters, there remains a prescriptive standard for how far a student is supposed to progress over the course of a year (or often, a shorter time period such as a week). So the ‘more time’ was mostly the ability to spend more time working on schoolwork during a limited period, though this was accompanied by varying levels of flexibility in deadlines. Lisa (G4) gave a rare tangible example of the usefulness this adaptation for her daughter Sarah:

One of the things that happens is because she does have a slower processing speed ... sometimes a new concept she doesn’t get right off the bat. Especially in math, which happens to be one of her best subjects, the math was getting more difficult, and she wouldn’t get it the first time, but she knew she could watch the recording over and over again. So even if it hit a point where she became emotionally frustrated, she was like, well, I just shut the class off, and I’ll go back and get it later. And then she would just go back and watch, and re-watch, and figure things out on her own. So that was helpful. That really worked for her learning style and what she needed ... she didn’t have to have an

outburst, because nobody was trying to make her pay attention when she was overwhelmed. And she could go back and pick up her materials and none of her classmates then – oh, I’m embarrassed because I had to step out because it was too much for me, type thing.

For Sarah, additional time allowed her both to regulate her emotions by stepping away from the material when she needed to, and to access the content repeatedly in order to process it. However, the frequent invocation of the benefits of reviewing material do not necessarily match up with the extent to which these affordances are helpful for many students. Several studies of students in a higher-education setting suggest little large-scale improvement in long-term memory or comprehension from re-watching lecture videos (Patel et al. 2019; Palmer, Chu, and Persky 2019). However, this does not mean that some students do not benefit from the accessibility of this option. In a study of the technology needs of students with disabilities Gierdowski and Galanek (2020) state, “The most prominent theme we identified concerned the students’ need to have online access to course materials and resources.” The ability to verify something in a lecture might also ease concerns for students who might have been hesitant to ask questions of instructors. Calarco’s (2018) work indicates poor and working-class students are disproportionately likely to be hesitant about requesting assistance and accommodations. Whether students ultimately made use of the affordances frequently or not their existence was clearly appealing for many – and simultaneously, was likely insufficient to fully ease the difficulties students were facing.

While the impetus for students to “catch up” can be externally imposed – necessary credits, the threat of being held back – moving ahead is framed as important because it prevents students from becoming bored and dissatisfied with school. Both boredom and the imposition of standardization are positioned as threats to students’ learning. Sophie (G6) a parent, recalled “being bored” throughout junior high. When she entered high school, she found the boredom interfered with her ability to process new information. She explained,

If you’re direct and clear, I will get the concept fairly quickly, but what would make it a drag for me is when the teacher would have to go over the same concept over and over again, and give so many different examples that by the end of that time, I was confused ... five explanations later, I felt like I lost the essence — and then I was just checked out.

In her son’s virtual school, she didn’t have to worry about him being dragged down by the needs of others, whether that meant skipping repetitive explanations or taking additional time with difficult material. She contrasted the virtual school’s flexible pacing with her impression of the standard process at a brick-and-mortar, where everyone had to move through the lesson at the same time: “Chop, chop, chop. Everybody has a blah, blah, blah.”

Many teachers and parents speak glowingly about the opportunities for children to “accelerate” beyond the standardized norm. While some referenced student’s greater engagement in learning, for others, this efficient productivity itself seems to be portrayed as a normative good. Completing as many classes as possible, as quickly as possible, was positioned as beneficial not just as a means to get to something else, but as a fundamentally better way of doing education. David (T12), a middle-school math teacher at the Lake School, said, “Because you get the

curriculum, you go at your own pace, you do what you want to do. For me, for some of my better students, they get the curriculum, and they just fly! They go as fast as they want.” The element of doing what you want – so anathema to social imaginaries of schooling – is central to the benefits of flexible pacing, here. Another teacher at the same school, Ruth (T16), who focused on “gifted” students, similarly explained,

If you’re a gifted kid, school – regular school – generally goes too slow. You may already know what’s being taught. If the average student needs, what, 7 to 10 repetitions of something and you need 1 to 2 – it’s going really slow. One of the great advantages of our school is that they can be self-paced. And they can work ahead. I have a kid now who’s a fifth grader, and he just started the second half of his second science course for this year. So, he’s doing two years of science in one year. Because he doesn’t have to wait for the rest of the class to catch up. That flexibility to keep moving, and to get stuff done ... he’s choosing that. He’s choosing to move ahead.

The idea that some students are being held back by their peers’ needs, and by a system that focuses on the “average student” is a pervasive belief in discussions around virtual schools and related education technology projects. I heard this not only from parents, teachers, and students, but also at industry conferences, where concern about the damage done to students having to move more slowly through the curriculum than they might like was palpable. The idea that students might miss out on the opportunity to speed up their schooling and move on to more advanced courses of study was consistently framed as a lost opportunity, and even a tragedy. It seemed inefficient and wasteful, and simultaneously was posed as a crisis point – that children who become encumbered from moving ahead will become so bored and disengaged as to be turned off from learning. The FOBL report cites a report from the Bill and Melinda Gates Foundation, “The Silent Epidemic: Perspectives of High School Dropouts,” to argue that “many students who enter alternative schools are feeling disengaged from their traditional school, often because they do not feel challenged.” They give the example of

the student who is particularly interested in creative and analytical writing may find that she has outpaced her school’s writing courses, leading her to lose interest in school generally and struggle with other subjects. When she moves to a school where she can pursue her interest in writing, she recognizes that she must also do well in math and science to get into college, and improves her performance in all areas.

There are echoes here of what Ames (2019) calls “the technically precocious boy,” a cultural construct of a child who has a “supposedly natural inclination to tinker and explore” (41), which for decades has been presented as masculine. Ames points out that advocates of this social imaginary view schooling as harmful to the innate creativity of children. Personalized learning thus recuperates schooling for children in this model, by allowing them to achieve their goals, no longer restricting them from getting ahead. With this barrier removed, they become motivated to improve their work in other areas, presumably in order to access further learning opportunities in their area of interest at college, which is assumed here to require general achievement. There is a compelling reality here. At the iNaCOL conference I attended, in a keynote presentation that received resounding applause and a standing ovation, famed scholar of education equity Professor Pedro Noguera argued that the “model [of schooling] we’ve created makes kids hate

learning” by being overly focused on testing and paying little attention to meeting students’ needs. Noguera explained that keeping kids from complex tasks and challenging texts creates a “trajectory of marginalization” through which students distance themselves from school. Willis (1981) and other scholars have documented the ways that students are explicitly and implicitly told by their teachers and the structures of the school that they are not cut out for academic challenges, and may respond by rebelling against the academic structure that has violently indicated it does not believe in their success. Being prevented from accelerating in an area where one is succeeding could have similar effects of alienating students from the learning process. Yet this kind of refusal to provide students with challenging academic materials, particularly when combined with dismissiveness about their abilities, is commonly not a random act against particular individuals, but arises from institutional patterns and dominant cultural ideas about which groups of people are deserving and capable. These ideas are to some extent repeated and reinforced in language that suggests that *some* students are able to move quickly, while others cannot. There is little attention paid here to the conditions that might create such inequities, instead, these differences are located in the individual. It becomes the responsibility of the student to achieve more advanced material, rather than the responsibility of the school to support them in attaining that. However, once again, the virtual school environment allows a variety of students to access the same opportunities.

In traditional schools, students skip grades and are sorted into honors courses in order to advance academically beyond their classmates. Like IEPs, with virtual schooling, the student cohort is much more amorphous, which means that participants can access differentiated trajectories with greater ease. In instances where multiple virtual schools or curriculums are available, families can also ‘shop’ between curricular options without facing the major inconvenience of moving. For example, Sophie (G6), who I will discuss at length in the following section, switched her son from one virtual school to another because she was unhappy with the quality of the curriculum at the first school. She said, “I want to say the school we’re with now is groundbreaking, as to where that [prior school] was—you have to send in a lot of papers, and you have to do paperwork.” Marion (T13), a former teacher at the Lake School recalled students who had taken advantage of the hybrid structure of their school to pursue additional educational opportunities:

I had a couple of students who went on to Northwestern University, University of Illinois, some great universities, and they really took full advantage of that virtual sense because their parents enrolled them in enrichment programs and were able to really eliminate the walls and the barriers so that they weren’t set by a time and they weren’t set by a location. I felt that was the best of both worlds.

While many imagine that online personalized learning might involve algorithmically adaptive curriculum, adjusting to a student’s demonstrated strengths and weaknesses, for many families in online schooling, the reality was that virtual schools allowed for personalized learning because they made it easier for the student or family to pick and choose what they learned and the pace at which it happened. Interestingly, this places control in the hands of students and their parents, rather than with the school or the state, whose goals for education might differ from individual families. Hyslop and Mead (2015) argue that personalized learning fundamentally diverges from the recent legacy of standards-based accountability, which they argue is grounded in a civil-rights framework where “equity has historically meant ensuring that all children are able to

acquire a common set of skills and knowledge” (20). Of course, this framework fails to recognize the ways in which a standards-based accountability system has ignored that the provision of resources was inequitably distributed, as “students of color face dramatic differences in courses, curriculum materials, and equipment” while typically being taught by less qualified teachers (Darling-Hammond 2004). Furthermore, as Lipman (2002) shows, a focus on standards and accountability often led to high-quality teachers exiting the public school system due to limitations on their autonomy. As Scott (2011) has demonstrated, these kind of long-standing systemic inequalities can motivate families who have faced racialized and class-based discrimination to opt in to alternative school options, including privatized providers and online schooling.

“I just felt that she needed one-on-one time.” – Getting Lost in the Crowd

Parental fears regarding children’s wellbeing, and whether schools could ever truly secure it, extended beyond anxiety about schools’ ability to directly protect their children’s bodily integrity. They also regularly expressed concern about the level of attention and care their children received. Virtual school allowed them to invest greater attention and support in their own children and enabled one on one teaching time with teachers as well. While these families’ experiences might overlap substantially with the “distancing” group, I distinguish them because of their sense that virtual schooling provided them with a *better education* than traditional public in-person schooling, not simply one that was safer. I take an in-depth look at two parents who used virtual schools to access a better version of education than they believed was possible within traditional public schools. While being able to personalize the timing and quality of education was important to each of them, above all, what they wanted for their children was a higher level of attention and support. Once again, the deficiencies they identify in the public school system are likely the product of the lack of funding public education is granted to implement more supports in the classroom.

Like Lisa and several other parents I spoke with, Ashley (G5) had come to virtual schooling after encountering first-hand the difficulties children with disabilities face in traditional school systems and determined to create a better environment. A Black woman in her mid-thirties, Ashley has three children – a pre-teen daughter in traditional public school, a toddler, and a nine-month-old who manages to sleep peacefully through our lunch at the busy local restaurant where we meet in the neighborhood where we once went to elementary school together. As we settle in and order our food, she tells me that she and her husband are hoping to move out of their current area so that her younger children will be able to attend different grammar schools. While she says they’re “blessed” that her older daughter is enrolled in one of the city’s selective enrollment schools, “for our other kids, we kind of want more.” When I ask where she’s thinking of, she replies that she’d like to move back to this neighborhood, which is a relatively wealthy and racially integrated part of the city that houses an elite private university. She says, “[in this neighborhood] the grammar schools are all at a reasonable standard. In our area right now, the schools are all struggling. They don’t have the same kind of funding or same kind of education program. There’s not as much parent involvement like out in [this neighborhood], so it’s unfortunate. The teachers seem tired and not energized to work.” The kindergarten her daughter had gone to, for example, she thought was “horrible.”

But she also knows that geography alone is not enough to access the quality of school she wants – she must also be attuned to how that school is managed, which has been shown to differ substantially with student body demographics. In this city, Black students are far more likely to attend schools that are threatened with disruptive closures and other re-arrangements (Nuamah 2017; Ewing 2018). When her family lived in this neighborhood earlier, her daughter had attended a “turnaround school” where “They shut it down, they emptied it out, and they started over.” All the existing teachers were replaced with a younger pool of employees (she refers to them as “our age,” – mid 30s – but based on her description I wonder if many might have been even younger). This was concerning for Ashley because,

While we’re great and energetic, we don’t always know everything. We don’t always know how to deal with certain students in certain areas. It wasn’t great. I think you should keep a good mix of teachers. I think older teachers have a lot of experience ... Younger teachers have enthusiasm and more technology to bring into the classroom, but there needs to be a mix. There wasn’t a mix there. It was a lot, so we pulled her out of there. We did one year there. Okay, let’s go. We’re running.

It was against this backdrop that Ashley decided to additionally take on the responsibility for homeschooling her younger sister, Gabby, who is 13. She explained,

My mom homeschooled some of my siblings. Not me, because I was way too rebellious for that. She homeschooled my brother for a year or two, and the other ones for a few years. My sister was born at 25 weeks. So, she’s 13, but her test scores would show she’s in 2nd grade. My mom would try to teach her, and it just didn’t work.

She put her in [Lake School], which is a hybrid. You go in one day a week for two-and-a-half hours. The rest of it is at home. Again, she couldn’t really do it – maybe because she’s older – it just didn’t work.

I said I could try. I felt like God was telling me to do it. I did the last year with her. We started off with [state standardized] testing. She’s in the first percentile, so all the way at the bottom. We got her up 18 points to be in the 8th percentile, which was great. She’s still not where she needs to be.

Ashley had been the one to suggest enrolling in the Lake School to her mother based on television commercials she had seen for the program years earlier. She felt strongly that while there might be private schools that could help if she could afford it, this was the only publicly available option that might offer her sister a fertile ground for learning. This conviction was grounded in her previous experiences as a parent advocating for her child in the public school system:

My daughter has a 504 plan – seeing how much work it took me to get that implemented and it’s a super simple one, I couldn’t imagine putting [my sister] in a public school, like a brick-and-mortar, with her IEP the way it needs to be written and try and get the results she needs. I just felt that she needed one-on-one time. Maybe this hybrid online school could do that for her.

Really, she argued, there was no alternative.

While Gabby was not facing the kind of physical restraints that the school wished to impose on Sarah, placing her in brick-and-mortar schools under existing conditions seemed like it would be a form of neglect. Even policies intended to promote school choice often end up highlighting the limited choices Black parents have within public school systems and increasing racial segregation (Horsford, Scott, and Anderson 2018; Pattillo 2015; Roda and Wells 2013). Drawing on her experiences with uneven school quality, Ashley did not trust public schools to meet their obligation to provide for Gabby's fundamental right to an education. As education policy scholar Janelle Scott (2011) has noted,

given the legal retreat from race-based equity remedies such as desegregation, school finance, or affirmative action, many urban public school systems lack the ability—and sometimes the will—to effectively and equitably serve their student populations. At times, this has meant that the market options are comparatively more progressive than some regressive state or school district policies.

To support her sister's wellbeing, Ashley felt online schools were the only option, even if that meant that she had to step in to fill the gaps by providing necessary supports. In her sister's case, this means checking for understanding and clarifying concepts, as well as tracking assignments and instructions. Importantly, the school is not providing this individualized instruction – Ashley says that because her sister does not have a physical disability, "it's harder to get an aide," – but because the instruction is virtual, Ashley can take on that role. Virtual instruction here opens possibilities to intervene in school quality without re-structuring the institution itself, by embedding schooling within the family.

Sophie (G6), is a single mother living in the suburbs of a major West Coast city who works as a massage therapist. While neither of her parents, Argentinian immigrants to the U.S., completed junior high school, her mother had worked for a school district for several decades and her father was a skilled craftsman. Sophie explained that this background and her own frustrations with schooling, combined with an early experience working as a nanny for an educational toy maker as a teenager, attuned her to "missed opportunities with education" for young children. When her son was three years old, wildfires pushed them out of their home and brought them to another part of the state. Surprisingly, Sophie felt this was "a blessing in disguise, cleansing fire." She seized the chance to choose a new home for them somewhere she felt would help support her goals for her family, including "an award-winning school district." Sophie felt her position as a single mom who "was not the best, academically" put her son in a precarious social position. Throughout our conversation, she reiterated that "I really can't afford to miss opportunities with education for him." But despite the accolades, Sophie was perpetually dissatisfied with the educational options presented to her. She felt the pre-school in their new town focused too much on art and play and not enough on "positioning for future concepts"- "more like babysitting" than a school. Kindergarten was no better, as she ended up with "boxes of arts and crafts" and felt that the school refused to even begin to introduce academic concepts. For her, the last straw came when she felt her son was at risk of being ignored in an overcrowded classroom:

When he ended up going to the kindergarten, there were several schools, unfortunately, that had closed in [nearby city], and there was a flood of students that came. At least that's my understanding of what happened. There was a flood of students coming into [my suburb], and I get it, but my only issue was that, for example, his kindergarten had—they had two shifts, and each shift had 20 or 25 kids in it, so they were broken up into two—a morning group, and an afternoon group. During that transitional time, it was really chaotic, and kids leaving, and kids coming in, and getting all your stuff out of the cubby. There was one time where another kid—they had the exact same water bottle, and there was this whole thing about whose water bottle is it, even though it said [his initials]. Little things like that.

Even during that instance, I think what the jarring moment for me there was I would wait until I could see go in the classroom before I would leave. I wouldn't just drop him off and leave. There was an instance where there was that transition because he was the afternoon group, or that later group. There was only one teacher, and one assistant. I watched Charlie walk outside of the classroom and go to another part of the school, and I followed him. Nobody even noticed, and that was [when I decided to homeschool]

Sophie was sympathetic to the strains on the public education system but was unwilling to sacrifice her child's potential success to what she saw as a failing institution.

That is what concerned me about the public school system, that he would have that same experience of falling through the cracks of not getting what he needs. This is no reflection on what I think of teachers ... they're struggling, but for me, I got this one shot with my one kid, and I want to give him all of the resources that I can ensure. Then if he goes and he joins a biker gang or the circus or whatever, then I can at least say I tried, right?

In order to meet her child's needs, Sophie had to seek out the best fit for her son, one that provided for significant attention to his academic needs. The virtual school she chose was ideal for her in its combination of caring teachers who could work directly with her son, a curriculum she felt was high quality, and the ability to supplement what the school provided with her own care and attention.

Beth (E6), who had been attracted to virtual schooling for its personalized elements, also came to realize the benefits it held in terms of providing her children with hands-on support they could not have attained otherwise. She said, "something that was done by chance, being part of [Lake], as I look back is really a gift, because I am certain, and I say this with all of my professional knowledge, I am certain that she would not have learned how to read at the level that she is at now had she not had the appropriate support. And to be fair, a mom who understood and was an educator." Amy (T21), a teacher at Sophie's son's school, broke down why the virtual environment allowed teachers to give more direct support to students:

In a brick-and-mortar setting where you have a whole lesson you have to get through, the bell's going to ring, and you really only have so much time to sit down with a student one on one, and it's very limited. In this environment online, I can spend 45 minutes talking to a student on the phone or bringing them into my virtual classroom and sharing my

screen and working on something with them until they get it, until there's that aha moment. That is a great difference that I think is available in the online environment that is a lot harder to create those opportunities in a brick-and-mortar.

For families making the choice to enroll their children in virtual schools, then, they saw the benefits as both the additional attention they could garner from teachers, and the support parents and other adults in the home would be able to provide. Their descriptions suggest that brick-and-mortar schools might have been able to accomplish some of what they desired – if class sizes were smaller, if there were more teachers and aides available. But with private school options out of reach, and demanding changes to local public schools seeming unlikely to unlock dividends, they used virtual schools to meet what they see as the core needs of their students.

“It was just that instant unity that we had there” – Racial Anxiety and School Choice

Whether these actions help the relatively affluent and privileged further cement their advantage, or assist those marginalized by the traditional school systems in attaining some measure of the benefits they are so often denied, depends on the social position of the families involved and what options they are deciding between. Many parents believe that it is their top responsibility to secure the best for their children, even if doing so may contribute to weakening the public system that supports others. Anxiety around school choice from white and middle-class parents is well-documented, grounded in the desire to “protect children from any possible harm and maximize their future prospects” (Cucchiara 2013). Cucchiara points to scholarly consensus that the combination of increased social choices, heightened economic and class instability for those in the middle class, and neoliberal ideologies of self-reliance has fueled middle-class parents’ belief that they need to actively mitigate potential threats to their children’s safety and success. School is seen as a critical area in which to attain and solidify protection and advantage. Urban public schools, in particular, are seen by white and affluent or middle-class parents as “risky,” even when the data runs counter to these parents’ perceptions of school safety and quality.

However, parents across demographics want good schools for their children, they may just not have the same interpretation on what this means or the same access to school options. In her study of African American parents at two schools with predominantly Black student bodies in Chicago, one a neighborhood school and one a charter school, Pattillo (2015) found that “most parents in this study prioritized putting their child in a quality school and they measured school quality by evaluating aspects of educational content, order and structure, and school safety” (50). Most important to the participants in her study in terms of quality was “academics,” but “safety” was also crucial, mentioned by the vast majority of her participants. Yet the parents in her study were keenly aware that despite the rhetoric of “choice,” “their access to good options in Chicago was limited by socioeconomic barriers of their own and external barriers inherent in the choice process” (42). She argues that for these parents, “the search for a quality school was frequently motivated by push factors away from bad options, rather than a voluntary interest in searching out new schools” (54). I have differentiated here between families who were being pushed away from bad options, who took up *distancing* activities, and those seeking out desired alternatives, which I refer to as an effort of *focusing*. But for many parents, these categories may be heavily overlapping in regards to school quality. What parents consider bad options also varies. For example, Daniel (E7), a Latinx man who worked in IT at the Lake School and was married to a

white teacher at the school, recalled the decision to send his children to the school:

At that point in time, my wife didn't feel that the neighborhood school was at the right level. She, as an educator – I deferred to her to all education-related decisions because that is her field. The local school ... it was underperforming. It was, I think at that point in time, almost a tier three school. It was like two minus. That was unacceptable for [my wife], so she found this school.

I failed to ask participants how they would identify their race or class, but the majority of parents I interviewed appeared to me to be white and middle class (my descriptions are based on my own flawed assumptions of people's race). Race was rarely mentioned explicitly by interviewees. Perhaps the only time race was discussed in the context of school decisions was a parent, Molly (G7), whose child was having difficulties in school, who changed districts because "That was a school that had a culture in it where—how do I put it? No Child Left Behind was really focused on the minority and not on the Caucasian children. It just was." This reflects a belief that her child was not receiving an appropriate level of attention because he was white. This brief mention was the most explicit reference to race and schooling among this group, but racial and class dynamics often infused discussions of school choice, although often presented in an ambiguous frame. This undercurrent is present in Sophie's mention of an influx of students from a nearby school district serving a majority Latinx, Black, and Asian American population to her child's suburban district, where white students outnumber students of color 2:1. When I asked Rhea (G11) why she hadn't wanted her child to enroll in the local school in her rural Western community, she paused, then said, "okay, how honest do you want me to be?" I encouraged her to be as forthcoming as was comfortable. She went on, "I didn't particularly care for the administration...I didn't particularly care for what I've heard about the school in regards to the students and things like that." She said she asked around, comparing the local school with one in a neighboring district, and was told the neighboring school would be "ideal" for her daughter, with "smaller classes, more involved teachers." Once they entered the neighboring school, "we just felt absolutely embraced by them. It was a friendly environment. They were very protective...I don't know why. It was just that instant unity that we had there." The local school district, where her daughter would have been assigned by default, was larger, though both were relatively small, reflecting the sparse population in the area. But whereas in the chosen district, white students made up just under half of the student body, in the local district, only about a quarter of students were white, while the majority were Latinx or Native American. Of course, it's impossible to say with certainty how much of a role the racial makeup of the school districts played in these parents' perceptions of school safety and quality. Because of systemic racism, segregation, and disinvestment in schools that primarily serve Black, Latinx, and Indigenous students, schools where those students are the majority are more likely to be under-funded, with higher student-teacher ratios (Darling-Hammond 2004, 2013). But prior research suggests white parents will often judge school quality based largely on the racial demographics of a school rather than on measures like student satisfaction (Schneider 2017). Given this, it seems likely that part of the reason some white parents opt out of local schools and, eventually, into virtual ones is due to negative stereotypes about schools with predominantly Black, Latinx, and working-class student bodies and the belief that their children would be harmed by attending schools where they are in the racial minority. Like other parents with similar demographic profiles, these parents had tried out alternative options for their children, pursuing their vision of

the “best” education. However, when those options either became unavailable or were unsatisfactory, they turned to online schools.

“we’ve also come to a world view of education is this independent kind of thing.” – Focusing Conclusion

Even though people associate the personalization with the school structure, the actual personalization of it is not about the curriculum. There are no sophisticated responsive algorithms here, updating in response to a student’s interests or prior knowledge. Assignments vary in their content, but are generally no more personalized than at any other school, where students may choose their own topic.

What is personalized is the timing, the relationship with the instructor (and to some extent, classmates), and the proximity and control of the family. These are largely the same affordances that enable people who are trying to balance schooling with something else in their lives – their health, their work, their passions – or who are seeking distance from perceived threats of traditional schools. What differentiates this is only that it is seen as intrinsically tied to their educational experience, rather than distinct from it. Time-shifting can be used to spend *more* time on school, rather than less. Parents serve not just as loving protectors, but also as curators and facilitators of their children’s educational experience. This emphasis on education, though, is inherently individual. As Jean (G1), a professor who studies writing and pedagogy and a parent of a child who attended a virtual school part time, put it – “we’ve also come to a world view of education is this independent kind of thing. You don’t need to have your classmates. You don’t really need to have a teacher. It’s very much a prescribed go through these set of steps, and you will have your education there at the end.” This attempt to optimize the self reflects broader cultural pressures. As Melissa Gregg (2018) explains regarding the workplace, “Productivity turns the workplace into a contest among individuals who vie for the ultimate neoliberal victory: the opportunity to remove themselves from the demands of the social...left unchecked, a bias toward individual success will be harnessed toward the imposition of inequality” (96).

“we’re going to lose our window of opportunity to get this kid educated” – Disability and the Production of Need

These scenarios can overlap, one can tip into the other. Sometimes it was only in aggregate that a participant would finally take the plunge to choosing online school. A student who moved to a virtual environment because of bullying can discover they can complete their schoolwork more quickly online and delight in spending more time on a passion project. A teacher who got a job at a virtual school in order to manage their childcare needs can find they are relieved at no longer having to worry so much about discipline or violence. One reason can also provide cover for another. The claimed benefit of a child being able to work at their own pace can be a stand-in for a parent’s desire to shelter them. Association with the charisma of innovative technology can obscure the lack of alternative job openings. Multiple motivations can co-exist, conscious and unconscious, born of the inextricable mingling of individual desire, structural pressures, and cultural narratives.

The appeal of virtual schooling, overall, was that it accommodated this wide array of needs,

desires, and constraints. By and large, programs were not specifically targeted to particular groups. With rare exceptions, they did not address the underlying conditions that brought people to their digital doors. There was little adaptation or adjustment to incorporate the specificity of participants' lives. Instead, virtual schools offered a platform for translating these diverse conditions of production into standardized outputs that showed no trace of their varied origins. This transformation required individuals to take on responsibilities once imagined as collective and public, but in exchange, lessened the demands for assimilation. For many, this was a worthwhile proposition.

The experiences of students with disabilities are particularly striking in cutting across the three categories. Students and their families may be using virtual schools as a *distancing* mechanism to try to alleviate the threats traditional schools pose – in the form of behavioral restraints, stigma, sensory overload, infection, or complex social situations. They may use virtual schools to *balance* demands of their healthcare with the requirements of schooling, particularly when their health care is time-intensive or requires them to be in a physical location away from a school building. And they may use virtual schools to *focus* on a better education – one with more attention and support and less extraneous additions. Emphasis on students with disabilities provided an important talking point for virtual school advocates to paint virtual schools as critical infrastructure in ensuring educational access. Looking closely at some of these narratives reveals both how virtual schools fill in gaps left by in-person institutions and where individual families are expected to increase their contributions in order to realize their students' rights to educational parity.

Virtual schools become attractive options for students with disabilities because they:

- **Allow a greater range of behaviors (avoiding restraint & assimilation)**
- **Alleviate stigma and potentially long-lasting classification**
- **Facilitate greater support & attention via family labor & 1:1 time with teachers**
- **Remove barriers to entry with consistent remote access**

In virtual schools, students were freed from a variety of restrictions to their physical appearance and movements. They were allowed here to balance their academic needs with the social, emotional, developmental, and behavioral needs, which might be in tension elsewhere. Nicole (E5) shared an experience of working with a student during an in-person section at the Lake School and remaining flexible to variations in physical behavior:

I had a student who was having a tantrum, and was under the desk, and didn't want to come out. The class still continued. I allowed the student to stay under the desk. I asked the student – I stooped down, and I asked a question. ``What's two times two?" He told me, ``Four." I wrote it on the board, but I never made him come from under the desk because that's where he was. I met him where he was. After the students got their lesson, I got under the desk – under the table with the student.

One of the things Nicole found most impressive about the Lake School was the integration of children with disabilities into general education courses. When a child was at home, they could be under a desk, or walking around a room, or in bed – whatever physical arrangement made

them comfortable. This ethos translated to the in-person times at the Lake School as well, where a wider variety of physical behavior was allowed than in a traditional classroom without sanction. Meeting students where they were, personalizing their learning, in this situation meant not imposing a rigid ideal onto the children. At the same time, Nicole believed that this approach led some students to organically decide to conform with the majority. She said, “A special education student also learns from peer teaching. They start to find – oh, everybody else is sitting down. I think I need to sit down too.” Although Nicole raised this point to emphasize the benefits of shared physical space, the example also indicates how being physically separated while sharing instructional space online might support students with disabilities in resisting normativity.

Barbara (E11), the principal at Eagle Academy, had conducted her doctoral research on the experiences of students with disabilities in online schools. One of her findings was that for autistic students and some children with other learning disabilities or health conditions, socializing in the virtual environment spared them from harmful labels while allowing them opportunities for connection. She explained,

They liked being able to get together at activities, but not have to see everybody every day. They weren't the kid that tripped in the lunchroom with his lunch tray, and everybody knew that kid. They weren't labeled indefinitely because they could come and experience the social interaction, and then they could go back home, and if it was terrible, they could gain the courage to come back. The label didn't follow them indefinitely.

Distancing themselves physically from other students did not have to be permanent or complete but could be a reliable option for students to choose in order to manage social perceptions.

As previously discussed in the case of Ashley's sister Gabby, the organization of virtual schooling allowed students to receive additional support from both family members and teachers in comparison to in-person schools. Whitney (T11) found that for her daughter, who has ADHD, being at the Lake School meant that teachers treated her “like their daughter at school,” working with her extensively and truly building a relationship together. As will be discussed in more depth in the following chapter, this extended support also sometimes allowed educators and parents to adapt instruction and curriculum to meet student's individual needs. Although many schools have a pre-determined curriculum, Eagle Academy encouraged teachers to adjust the curriculum to attend to the needs of students, which was made more possible because teachers and students could interact at length one on one. Kara (T20) who taught P.E. at Eagle Academy, recalled a recent example of connecting with one of her students to find options for him to participate in the course activities and internalize the lesson at hand:

I've had a recent student who didn't understand certain concepts like target heart rate and how to find them. I met with him, and I showed him how to take his heart rate. We talked about why it's an important thing. We also talked about his specific issues with disability because he had really bad asthma ... There was bad pollution, so he was really struggling with physical activity because what he normally did wasn't accessible to him. We were able to find some good workouts, actually, on YouTube for him where he could just do it right in his living room off of his computer. It was just a completely different perspective

to him, where he was able to ... explore new activities that he actually loved and connected with how important that heart rate is and actually why.

While this kind of personalized learning and accommodation might be legally required at all schools, virtual schools promised to embrace these kinds of in-depth conversations. This element was especially beneficial for those marginalized by the standard curriculum and means of instruction.

In addition to protecting students with disabilities from social or academic sanction for their behaviors and providing additional support, virtual schools could also make educational content more accessible by minimizing or removing elements of the classroom that presented barriers to these students' learning. For some students with anxiety or difficulties with sensory processing, traditional classrooms felt like torture even if they were not being targeted for violence or harassment. Jeff (T9) explained that at the Bluebird West where he teaches, "a lot of the students in this program have anxiety issues. And one of the reasons why maybe they're not at a brick-and-mortar is because they have social anxieties and just are really nervous around other people, and so this is kind of a way for them to get their education, without subjecting themselves to that nervousness." Virtual schools could eliminate the need for students to grapple with things like excessive germs, treacherous stairwells, and constant social interactions. Kristin (G8) explained the sense of relief her family had when her son Zachary, who had ADHD and anxiety, transferred to Eagle Academy:

It just took all of the lockers, all of the books, all the papers, all the pencils, all the lunch money, all the coats, all the backpacks, all that stuff, and allowed us to just have one laptop and everything he possibly needed in that one computer. That, for Zachary, was really the biggest blessing because we just needed to have one space to worry about just to be able to focus long enough to just organize ourselves. That, in and of itself, was [laughs]... it was the most amazing thing.

In-person schooling involves so much more than instruction – there are a number of routines and structures in place to support the management of large groups of children for extensive periods of time. For Zachary and many other students with disabilities, these elements of schooling were extremely difficult to navigate and caused immense barriers to learning. Virtual schooling minimized the number of things students had to deal with, allowing them to focus on learning.

The following story of Molly (G7) and her son Nathan provides an in-depth example of how virtual schools come to be desirable for some students with disabilities and their families. In particular, they highlight the lengthy and arduous process families face in trying to get appropriate services and accommodations in traditional schools. I include this narrative in detail because the specific experience this family shares helps to highlight common constraints of in-person schooling that propel families to seek out virtual school as an alternative. It also puts on display how in-person schools might be incentivized to push students with disabilities into virtual programs in order to avoid the costs of providing accessibility.

As early as pre-kindergarten, Molly, then a single mother, realized that her son Nathan "was going to need special services" when he became upset at hearing the sounds of another language.

Going into kindergarten, Molly already knew that Nathan “needed to stand” for all activities. But while the school provided “informal” support, Molly did not feel they were meeting Nathan’s needs. When he finished first grade and remained at the kindergarten reading level, Molly switched school districts and was able to secure diagnostic testing resulting in an Individual Education Plan for Nathan’s second round of first grade. This was helpful, but still not enough. Molly explained the kind of behaviors Nathan exhibited that suggested how challenging the traditional classroom was for him:

We started to see where he didn’t want to be near other children. He didn’t want to sit with other children. He had a lot of anxiety. Reading time, he didn’t want to be on the floor. He wanted to be away from the other children. It was just he wasn’t coping well with anything chaotic ... He was on sensory overload. He wouldn’t take off his coat. He was in the corner hiding underneath his coat. He would sleep in that coat. He would not take off his coat. That coat was his security blanket. It took us years for him to come to a place where he could actually get rid of the coat because it was such a security ... he wanted to have a bagel for lunch every day at school. One day he went in and his expectation was that he could have a bagel, and there were no bagels. It was like the end of the world because he couldn’t have his usual lunch.

Nathan needed things to be a particular way – and that way conflicted with the school’s practices. Wearing a coat and eating bagels might be manageable accommodations within the school, though some schools are strict about their dress codes. But refusing to sit with other children presented a disruption to the structure of the class that was a challenge for the school to adjust to. After that, Molly and her new husband decided to try homeschooling, after hearing from friends about their positive experience. Initially, they tried to use Abeka, a Christian homeschooling curriculum, but found it too rigid – as Molly said, “you’ve got to have a child that’s ready to be a very independent self-learner.” They then tried a local small Christian private school, but as Nathan continued to be “behind in everything,” Molly realized Nathan would benefit from one-on-one instruction. Further attempts at diagnostic testing remained inconclusive, but child development experts told Molly “you really need to put him back into the public school system in order to get the services that he needs.” Molly and her husband moved to a “more progressive” school system, where, as Molly put it, they had a “one-to-one initiative, blah, blah, blah” – suggesting that this description was more PR-speak than actual classroom reform. Once there, Molly and her husband hired a lawyer to put pressure on the district. “You need to figure out how to educate this kid...your job is to educate” Molly said. She noted that the lawyer was expensive, but that she and her husband felt they had little choice – “At that point it was do or die because we’re now going into fourth grade, and we’re going to lose our window of opportunity to get this kid educated.” The district again tried to place Nathan in general classes for the majority of the time, despite Molly’s objections that it would be too overwhelming. When the district finally paid for further diagnostic testing under legal pressure, the family finally began to get some answers, discovering that Nathan had sensory integration disorder, ADHD and central auditory processing disorder. Armed with that information, Molly said she “knew we had to take a different tactic.” They were able to get the district to agree to let Nathan be in the “resource room,” separated from the rest of the students full time, with regular occupational therapy sessions. After securing a paraprofessional to work with Nathan one on one, he began to integrate back into the general classroom of his own accord. A friend of Molly’s who worked for

an Educational Technology company recommended an application that would read stories aloud while displaying the words, which helped Nathan's literacy improve, though he continued to struggle with writing. Throughout middle school, Nathan was doing well, receiving the support he needed from his IEP.

But when he entered high-school, Molly said, the problems began again. The school claimed they wanted to "start promoting independence." To Molly, this was code for, "we don't want to spend the money on continuing to implement this IEP, so we're going to do everything we can to get around it in order to dot the Is, cross the Ts for the state's purposes and for the funding purposes, but really we're not going to give him the support that he needs." Nathan became discouraged at the school's rigid "one and done" policy, where he was unable to re-do assignments or access extra help. Molly said, "It just felt like we were having meetings with the school, and we're having the same conversation over and over and over... every day he was coming home, and he was like I hate school. I don't like school." After becoming close friends with a student who was homeschooled, Nathan begged his parents to return to homeschooling. After his sophomore year, he was adamant that he did not want to go back to school. Molly began to research their options and found a Facebook group for homeschooling families in her state. She eventually found an option that packaged together third-party curriculum – what Molly called "really just a front-end platform" that curated course modules from various companies. Molly and Nathan made an agreement that he had to score an 80 or above on every quiz – but he could take the quiz as many times as he needed to in order to reach that goal. As Molly explained, "I'd rather have you do it 10 times just to get the 80 so that you're actually learning and memorizing and understanding and re-doing it. That's what has worked."

As Molly and I talk, Nathan listens while doing his schoolwork, though he demurs when Molly asks if he would like to speak with me directly. When Molly speaks about their school experience now, her voice changes, sounding much more at ease. She happily lists off all the things Nathan does now that he couldn't before – a coding class with a youth leader at his church, helping Molly take care of their horses, visiting his grandparents and volunteering at the gift shop in their assisted living facility. Soon, she suggests, he'll be taking college classes and getting a job, maybe even graduate high-school early. The new arrangement means more day-to-day work for Molly – she monitors his assignments, and manually grades his essays, since writing is still a struggle. But she no longer has to do battle with the school district or face Nathan's constant misery. Despite the additional responsibilities she has had to take on, her takeaway about the current experience is: "I just feel like we have a lot of freedom."

In the cases of Lisa, Ashley, Molly, Kristin, these mothers understand themselves as sacrificing their own time and energy in order to care for their children, in an expansion beyond the expected norm. Schools traditionally alleviate the gendered care-taking responsibilities many mothers face in the U.S. But when traditional schools fail their children, and do not live up to their needs, these mothers step up to take on what is required to meet them. In her study of how parents of teenagers in different social classes deal with pervasive and increasing job insecurity in their work and home lives, Pugh (2015) finds that some people will go above and beyond to ensure that "needs get met in desperate times," by "facing the situations of someone else's dire

and long-term needs, striving to meet those needs rather than walk away, and undertaking unusual struggle or sacrifice in doing so” (111). She calls this group “commitment heroes.” Yet she argues that valorizing these individuals can “mask the social origin of those extreme needs” (110), effectively letting off the hook the state and private industry for their roles in creating such dire circumstances. Here, these mothers are required to make up for the deficiencies of the state. Pugh explains that “The privatization of risk is one cost of the devolution of responsibility to the individual” (113). Here, the “risk” is of having a child whose needs are not adequately met by the traditional school system. Although there are ostensibly some supports in place, as seen through these parents’ fervent attempts to navigate the IEP system, these mothers are ultimately left to find solutions when these supports do not materialize or become increasingly impossible to attain. Virtual schools step in to make this possible for a wider group of families, including those who would not otherwise feel comfortable homeschooling their children. Public school systems are alleviated of the responsibility of ensuring equal access for students with disabilities, and virtual schools, including for-profit companies, profit from the arrangement. McMillan Cottom (2017) refers to situations like this one as “a negative social insurance program,” which “positions private-sector goods to profit from predictable systemic social inequalities, ostensibly for the public good” (174). Here we return to the critiques of privatization discussed at the beginning of this chapter. What these narratives help us to understand is how some families end up in the position where virtual schools meet the needs created by the predictable inequalities of the traditional school system. Where there is not a public-sector response to these inequalities, families respond by committing more of their own labor and using private goods as needed.

There is some danger in this narrative. People with disabilities have offensively been labeled as a “burden” for those who care for and support them, framing their needs as exceptional and excessive. But disability studies, alongside long-standing Indigenous epistemologies of relationality and feminist and new materialist scholarship, has forcefully disputed this analysis, instead emphasizing the inter-dependent nature of *all* entities, and highlighting the ways that societies are structured to prioritize the needs of certain people over others (Crosby and Jakobsen 2020). In other words, marginalization and access are both actively crafted achievements. Societies and institutions choose who they will enable to inhabit certain spaces, and who they will exclude, with their material and social architecture. Langdon Winner (1980) famously articulates this by arguing that “artifacts have politics,” using the example of a building that is not wheelchair accessible and thus creates barriers for people who use wheelchairs to move about the world to enter into the building and participate in public life. This is known as the “social model of disability,” which locates the problem with this situation not with the person who needs a particular structure in order to access a space, but with the design of the space that allows for certain people to enter with relative ease and bars others (Hamraie 2017). Opposed to the “medical model,” which locates the problem in the body of the person with access needs, the social model emphasizes how people are actively *disabled* by society’s inaccessibility, *not* by the features of their bodies. These models invite different approaches to social change. The medical model focuses on curing or “fixing” the individual, so that they can be independent, self-reliant, and able to access exclusionary spaces. The social model focuses on shifting the architecture of social and material life so that it no longer excludes people with disabilities. One response to the way the medical model dehumanizes and degrades disabled people has been to uplift assimilationist narratives – of disability, to propose that disabled people are “just like everyone else” and in particular, to claim venerated qualities of independence for disabled people, who

have so often been framed as dependent. When disability studies instead urges us to notice how an infrastructure of care and interdependence is essential for all people, we can understand how the mothers described in this chapter take on additional labor in order to support children with disabilities when the state refuses to do so are not suffering because their children are disabled. Rather, this labor is required because the social world insists on the marginalization and alienation of their children and refuses to provide the kind of support and care that would allow for their flourishing.

As Crosby and Jakobsen (2020) argue, in addition to the medical model that dehumanizes and degrades disabled people, the “normative happy story of disability” that positions people with disabilities as successful independent liberal subjects who overcome adversity in order to make themselves economically and socially productive “obscures the conditions of production of the disabled subject, both at the intimate scale of the labor involved in living on with disability and at the geopolitical scale of labor flows and global capitalist relations” (78). Centering these “conditions of production,” points to the flaw in the model of personalized and individualized learning that positions enrollment in virtual schools as just another choice. What allows virtual schools to become a space that “works” for some students with disabilities, and what allows traditional schools to “fail” many students with disabilities? In part, traditional schools fail students with disabilities – and many of the other students and teachers discussed in this chapter – because they are predominantly organized to focus on and account for the liberal individual, without appropriate attention to or recognition of the conditions of their production as subjects. These structural choices actively produce some students as disabled, some students as unsafe, some students as suspect, and some students as gifted.

“I’m going to work from home, I’m going to raise our kids, and everything’s going to be great.” – Teacher Rationales

While many of these rationales are well-established when it comes to students, they are strikingly similar for teachers as well. Some teachers felt their physical or emotional safety was threatened by their students and peers and sought to distance themselves from others in their school out of fear of violence and cruelty. Others turned to teaching online in order to balance paid work and their caretaking responsibilities. And some felt that teaching online allowed them to practice a superior form of pedagogy, particularly in that it allowed them to focus on instruction rather than discipline.

“I got threatened” – Distancing

Teachers shared personal stories of choosing to exit the physical classroom after experiencing physical violence first or second hand. One math teacher at the Lake School, David (T12), an Iranian-American man in his early 40s, said that at a previous school he was shot at, and that,

the fourth week, somebody was dealing heroin in the class. And they left a bag, [and] after they left, I showed it to the principal, and she’s like, just give it to the police. I’m like, police? She was like, and pointed, and there’s a police station in our school. Which I didn’t know about.

Here, the teacher's fear for his physical safety was based not only on his first-hand experience of violence directed towards him, but also on the perception he formed of the school as a space of crime. The realization that there was a police station in the building was for him an indication of how bad the situation at the school was – a shorthand to suggest that his workplace was a dangerous one. A science teacher in another state, Shannon (T4), a white woman in her early 30s, remembered of her first high-school teaching job, "I got threatened by a gang member. I got my hand slammed in a door." For these participants, moving into a digital work environment was a distancing act, one that could materially protect them from perceived dangers of the brick-and-mortar environment by erecting a physical separation from their students.

Although they didn't frame it as bullying, teachers also experienced social hostility in traditional schools that prompted them to seek out an alternative. Several teachers referenced feeling that their traditional school colleagues were cliquey and competitive. Amanda (T23), who had taught at the elementary level at both a traditional and virtual school in the mid-Atlantic area before moving into a more administrative role said,

as a brick-and-mortar teacher – I felt like there was a lot of competition among the staff, and that was hard. And I feel like with the culture that we've built, here at [school], it's not a competition. It's about sharing what you've done, and building off of that, and learning from each other. And that's important to me, personally. And one of the reasons why I love what I do and where I am.

Stephanie (E12), who works in student services at a state-wide virtual charter in the Mountain West, had a similarly off-putting experience when she first began teaching social studies at a brick-and-mortar public high-school. She explained, "I struggled with the difficulty of sometimes the politics of public school. I loved working with the kids, but a lot of the teachers that I worked with weren't very collaborative, and so it was a difficult environment to be in." She remembered feeling confusion over the curriculum plan she was given for the semester, and asking a fellow teacher about it, only to be told, "Sorry, we had a meeting, and no one invited you." She felt that because she did not teach AP classes, her colleagues consistently excluded her. Amy (T21), teaching for Cardinal Pacific, echoed this sentiment, "At the brick-and-mortar school, there was a lot of more...even though there were teachers of the same content, everyone had their own way of doing things and didn't really share with anyone else what to do. Especially with new teachers, I felt like that was a thing." Thus, their moves to virtual schools, even when primarily motivated by other factors, were also seeded by a sense of isolation in traditional schools, and sometimes of being hazed by more senior co-workers.

"it was like, a no brainer, how could I say no?" – Balancing

Although less advertised, more easily achieving work-life balance is also the implicit offer made to teachers. Almost always, teachers make less money working in virtual schools than in traditional brick-and-mortar environments, and sometimes forfeit access to a union and certain benefits. But the allure of working from home and often being able to choose their own hours is strong. This is the promise of the gig economy, encompassed in the word "flexibility," versions of which appeared over 100 times across my 50+ interviews. Gray and Suri (2019) explain that while some gig workers take on what they call "ghost work" as a complement to more traditional

employment, often because of low wages in their primary jobs, others pursue a full time schedule or more because this form of income generation “gave them some semblance of control over their time, work environment, and what they took on and valued as ‘meaningful work’” (96). In these cases, people make the calculation that taking on tasks through platforms like Mechanical Turk is preferable to their other employment options. As with virtual schools, Gray and Suri find that gig workers are both fleeing problems in traditional workplaces, such as sexual harassment and bodily injury, and seeking out alternatives that will better accommodate the rest of their lives outside of work. They explain, “people turn to ghost work, despite all of its mercurial temperament, because they see something in it that alleviates the pressure of trying to jam their lives into more traditional forms of work, namely service sector jobs” (105). In their survey of workers on micro-task platforms in 75 countries, Berg et al. (2018) found that 22% of respondents listed their “most important reason for performing crowd work” as the preference to work from home (37). While for some this is a question of personal preference, Gray and Suri make clear that the impetus to “have it all,” particularly for women, becomes a challenge in the absence of state-provided or mandated services like childcare and eldercare. Berg et al. found that 15% of women in their survey, versus only 5% of men, said they could “only work from home.” While some of these restrictions are related to health conditions that limit mobility, both Berg et al. and Gray and Suri emphasize care-taking responsibilities as a major force in narrowing employment options.

Many teachers I interviewed were attracted to virtual schools by the idea that they could stay home with their children while bringing in an income. Kate (T1), a middle-school science teacher who used to work for the Pelican School, recalled that she first sought out a position there in hopes of moving to that state, where her husband had grown up. Her desire to work for the school was intimately entangled with her hopes for her family’s future, and she was not alone:

Everyone wanted to get into it. Young women wanted to get into it so they could raise their kids at home. And I told [my husband], that’s what I want to do, I want to work for [Pelican], at the time we were told that we could move anywhere we wanted. So, it was like, OK, I’m going to get a job there, I’m going to work from home, I’m going to raise our kids, and everything’s going to be great.

Anthony (T3), a high-school social studies teacher, also saw working for the Pelican School as a way to balance making money and childcare. Fifteen years before we spoke, he and his wife were preparing for the arrival of their first child and had agreed that he would stay home with their new son, who was due in the fall. At the end of the school year in the brick-and-mortar public school where he had been teaching, friends told him about a pilot program between the Pelican School and the county where he worked, a few states over, to offer an accelerated online American government course. He remembers thinking, “there’s no harm in me going, so I literally just tagged along with these two guys and went to this pilot meeting.” Feeling he had little to lose, he applied and was hired to teach the course. Things naturally progressed from there:

And then the fall rolled around, and [our son] was born, and I think they offered me ... a part time job to continue with American government. And it was a no brainer, how could

I say no? I could stay home, teach, be with [my son]... If I started the pilot program in June, I would say by December, I had a full-time job with them.

Emma (T17) shared a similar story about her entrance into online teaching after 4 years in the brick-and-mortar classroom:

I was just having a really hard time leaving my kid. I had heard about online schooling, and I just started looking into it. What inspired me to look into it to begin with was having a child at home and being able to still continue in my career and still earn years towards retirement and still teach while still being like a stay-at-home mom...

We could make our own teaching hours and invite students based on the hours that we were available. It was just more flexible in terms of — we have a doctor's appointment. I have to make my schedule around this doctor's appointment. For me personally, especially with little kids. That was when I started, and it was just time wise really flexible. I probably — this probably shouldn't [she hesitates for a moment] — I probably didn't work a full 40 hours a week every week. Some weeks I worked more. Some weeks I worked less, and then the times that — it all usually equaled out in the end, but I could work during nap times. I could work once my son was asleep in the evenings because I could do correspondences then. I could set up the classes for the next day. I could email. I could grade. The rest was chasing kids, making those phone calls, and I could make the phone calls at any point, as long as it's before 8:00 p.m. It was pretty flexible.

Unlike online micro-task or gig workers, these teachers did not have to sacrifice their professional identity or the stability of their employment in order to balance their familial and financial needs. The ability to continue to pursue their chosen line of work while reaping the benefits of time-shifting and remote access was a major draw and distinction that could outweigh lowered pay or status. Even when teachers had children who themselves attended brick-and-mortar schools or other child-care options, they appreciated the ability to schedule doctor's appointments or take care of a sick child without needing paid time off. When a teacher's elderly parent had a health crisis, or their spouse was reassigned to a new location for their job, virtual teaching could often accommodate their circumstances in a way few in-person jobs in the U.S. would.

The contrast is especially stark in relation to teaching in a brick-and-mortar school, where for many teachers even leaving the classroom for a five-minute run to the restroom is impossible unless during a scheduled break. Traditionally, though there were exceptions, much remote work would be impossible for teachers. Prior to the covid-19 pandemic, "Only 7% of civilian workers in the United States, or roughly 9.8 million of the nation's approximately 140 million civilian workers, have access to a 'flexible workplace' benefit, or telework, according to the [2019 National Compensation Survey](#) (NCS) from the federal Bureau of Labor Statistics. And those workers who have access to it are largely managers, other white-collar professionals and the highly paid" (Desilver 2020). Further, only 3 U.S. States and the District of Columbia require employers to provide paid family leave (Brainerd 2017). While some states are adding additional paid leave for teachers, this can often only be used only for upon the arrival of a new child (and

many states continue to lack paid parental leave for teachers altogether) (Will 2019). Though several interviewees expressed a more long-term desire to be at home for care-taking purposes, extended paid family leave, state-sponsored childcare, and more robust back-up support in both day-to-day and crisis situations might easily have changed the calculus for many teachers' decision-making. In the absence of such support, teachers turn to virtual schools as a way to manage their caretaking and financial needs themselves. Like those parents who took on additional support roles for their children they felt were not being met by the schools, this decision could be interpreted either as the result of a failure on the part of the institution and society to provide what was needed, or as a success where the malleability of institutional requirements allows families to provide the kind of support only they can give.

The same benefit also applies to teachers whose spouse is in the military or has another job that requires frequent relocation. Kate (T1) had been living with her mom, shortly out of college, when she first made the switch from the brick-and-mortar classroom to a virtual school. When her mother decided to move away from the area where she grew up, Kate finished the school year at the brick-and-mortar school where she had been working but felt continuing to commute would be unsustainable. She tried applying to local schools, but they were "really hard to get into," and she wasn't having any luck. When she saw a position at a virtual school on the job board, she realized she was no longer bound by location. She worked at the school as she transitioned from her mother's home to married life, and now swayed by the allure of not being tied to one place, stayed there until she got a job at the Pelican School.

"it's a very positive experience" – Focusing

For teachers, a major responsibility in the traditional classroom that did not align with their hoped-for career vision was discipline. Classroom management was time-consuming, demoralizing, and often felt irrelevant to the reason they had entered the classroom in the first place. Virtual schools, they felt, would provide a purer form of teaching, where they could get what they came for – share their love of a subject widely.

Shannon (T4) was overwhelmed by her in person classes and felt true connection was impossible with 35 students to a class. Having started teaching high-school in person shortly out of college, she remembered: "I could not get them to behave. So, I spent most of my time disciplining, and I was so behind, and it was just – it was a nightmare. And I was like, this is the most terrible thing ever. And then I get the call from [Pelican], and I was like, yes!" The opportunity to work one on one with students at Pelican reminded her of her "very positive experience" tutoring in college. She felt she could actually make a difference in the virtual environment: "when a student really needs help because they're struggling in the course, you're not stuck – you don't feel like you're ignoring 29 other students right now, when you're helping another student." For Shannon, the heart of teaching was in direct connections with her students. She valued the ability to target her support to those who needed her, without feeling she was letting others down. Although her exit from the physical classroom was primarily an attempt to avoid what she saw as a dangerous space, working virtually was, for her, actually superior to the possibilities of brick-and-mortar schools.

While some teachers lauded the virtual school environment as allowing a pedagogical

relationship free of coercion where the life of the mind could flourish, others suggested that the discomfort with discipline was less ideological and more a form of avoidance. Anthony (T3) lamented that he felt unsure about his own abilities in this area after over a dozen years in the online environment. More than that, he suspected some teachers of joining the ranks because they couldn't hack it in the regular classroom. Based on their interactions, he thought:

I wouldn't want you in the classroom next to me, and I'm not sure if we were in the same department I would be friends with you. And some people were explicit, they said – this was a young teacher, said she showed up for her first day, and there was a senior prank going on, and she was run out of the school, like, 'I can't!' you know? I mean, things happen, you know... [laughs] in a high-school, and I don't know what my judgement about my colleagues says about me, but that's how I felt. I thought – I don't know if you'd make it.

Anthony's comments point to the fine line between embracing one's preferred elements of education and refusing to engage in aspects of schooling that may be difficult but necessary. When teachers seek to offload classroom management and other tasks they see as peripheral to their roles, those responsibilities do not vanish into thin air. Many of these burdens shift to parents or other family members – or reappear in new form to threaten the hopes of teachers who sought to avoid them.

A Bridge – Best of Both Worlds

Lois (2013) argues that “Homeschoolers are extremely concerned about their children's education, and they homeschool because they see it as a way to be ultrasensible parents” (2). Stevens (2003) similarly argues that homeschooling parents are inordinately invested in protecting their children and assuring them what they interpret as the best forms of education. The families I have discussed in this chapter chose virtual schooling because they believed it to be in their children's best interests, whether academically or in pursuit of their physical safety and wellbeing. Many of the rationales discussed in this chapter are primary reasons why families homeschool more generally, rather than being specific to virtual schooling. How did virtual schools in particular become the answer for these families? As has been discussed throughout this chapter, virtual schooling allowed families to strike a balance – to protect their children, balance their responsibilities and desires, and craft their ideal form of education while also accessing the resources schools provide and without being marked as deviant. Virtual school offered a path to simultaneously maintain legitimacy in the eyes of the state and evade direct control by a central authority.

In *Kingdom of Children: Culture and Controversy in the Homeschooling Movement*, Stevens argues that “homeschool advocates have convinced these parents that their children's bodies are too fragile to be squeezed into desks all day, their needs too distinctive to be handed over to strangers, their minds too pliant to be subjected to secular teachers.” This analysis partially encompasses the parental motivations here, as some parents saw their children as both unique and precarious, needing protection and personalized attention in order to achieve a proper education. One might be surprised that people with these concerns would want their children to be in front of a computer screen for at least four hours a day. But because virtual school allowed

students to minimize the time they spent on schooling if they were able to move more quickly through the material, and to time-shift their requirements, time at the computer seemed a much smaller price to pay than a much longer period of time in a school building, especially when it could be broken up over the course of the day or the week.

Unlike the parents in Stevens's study, homeschooling *alone* was not enough. Virtual school allowed parents to provide the safety, support, and supervision they craved for their children while also accessing instruction, curriculum, and credentials they could not offer themselves. They recognized value in schools as institutions, whether that value was truly pedagogical or primarily transactional, in the form of credentials. Lisa (G4) explained that when she had to homeschool her daughter to avoid a severely restrictive institution,

I wanted somebody to provide me the curriculum structure. I realized I was going to have to answer a lot of things at home, but she was already at home with me, and I was like, I really don't want to be her teacher all these years ... I just don't want to carry that. I wanted somebody else to provide that.

In this way, students could access the best of both worlds – the guidance, care, and safety of their home environment, combined with the external support and standards of the school. Amanda (T23), a staff member and former teacher at a charter school run by a large charter management organization in the DMV area, “sometimes the kids don't want to listen to Mom for schooling. So, that's another opportunity for our staff to jump in and say, “OK, but it's not Mom telling you you have to do that, you know, we're saying these are the requirements.” Both Grace (G3) and Sophie (G6) expressed insecurity about their ability to teach their children and were motivated to seek out another option when they felt they were falling short with homeschooling. Initially, Grace, a mother of six in the south-east U.S., felt called by God to homeschool her children, but was uncertain because she felt her education was inadequate. She had been offered a scholarship for her daughter to a private school, but through prayer and discussion with friends, felt that her children were meant to be with her, because of what she could uniquely offer them:

The last person that I talked to about it that convinced me that [homeschooling] was going to be okay, she was talking to me, and I said, ‘Well, I just don't feel qualified. I didn't even like school. I only got mediocre grades.’ She told me that, actually, a parent like me makes a better homeschooler because they actually care about their children's education and will learn with their kids. That really opened my eyes to see it in a different light, and so I went for it.

But those concerns never fully faded. After a few years, “when my daughter hit middle school, my oldest, I felt like I would really like some help.” Similarly, Sophie (G6) explained, “I tried to do that for a couple of years on my own ... and I realized that was not working. I'm a massage therapist. Looking back, I wish I would have had guidance, as far as education, as I'm trying to do with my son.” These parents valued the idea of education and did not feel they were equipped to offer their children the best forms of instruction, even as they were confident in their ability to best protect and support their children by having them at home. Further, Fields-Smith and Williams (2009) point out that home schooling families “struggle to gain access to services provided by public schools,” including those for special education (381). By attending virtual

charter or district schools, students retain rights to publicly funded support services they might not be eligible for if they were entirely home schooled.

Ashley (G5) suggested that the ‘best of both worlds’ framing might be somewhat misleading in suggesting that parents might have to do less work than would actually be required to help their students succeed. She had considered several Christian homeschooling options besides the Lake School. One was entirely offline and simply provided the curriculum. The other would mail the curriculum and then give the option to have assignments graded by teachers, providing “records for legal reasons.” Ashley’s mother, though, had chosen the Lake School because it offered more synchronous and structured experiences, and that was easier to manage. She explained that even with the option that provided professional grading, “it’s a lot more on a parent. You really are creating that plan and really implementing it yourself.” With the virtual school that provided more structure, on the other hand, she suggested there might be a perhaps dubious belief that parents could do less, thinking that teachers would be able to take care of everything. “With the online school, the parent doesn’t have to be as involved as the teachers would like them to be. I think it might lead to parents who maybe aren’t suited for homeschooling to homeschool,” she said. Virtual schools promised teachers and curriculum, which might lead some families to misunderstand the extent of the role they would need to play, even as others were eager to take that on. But the allure of being able to depend on virtual schools for a certain amount of access and support while implementing desired protections and adjustments at home remained strong for many.

Virtual schools provided a bridge between families who were “hiding” and the state, a way to, as William suggested, bring them “back into the fold.” It allowed families the freedom to pursue what they felt was best for their children, while still being aligned with the state’s requirements and expectations. Whether or not people want to be in the fold, whether it contributes to their flourishing, remains an open question. Like prostheses and accessibility accommodations as described by Hamraie, the digital can sometimes become a means of expanding the imperative to work to those who might have previously escaped this injunction by being deemed ineligible (Precarity Lab 2020).

When school is considered an unmitigated good, then providing a way to connect with school where there had not previously been one appears to be a positive development. But for those concerned about the harms of schooling, even a more limited version could still present dangers, depending on the parts provided. Greene (2021) shows that “access” as a framing, along with the “digital divide,” is constituted as giving people the opportunity to compete in the entrepreneurial marketplace, rather than providing universal services to meet their needs. Virtual schools embody this legacy in both parts of their central identity – digital and schooling – both of which have come to be associated with individual human capital development rather than public goods. For some families, attending virtual school was more about checking off a box required by the government and by many employers than it was about learning. And while public options exist for virtual schools, the additional labor required by families in order to implement virtual schooling lends credence to the argument of many critics of technology in private services that digitization is often accompanied by offloading responsibilities from the state to private homes and companies justified by a focus on the individual (Tactical Tech 2019).

The Individual vs. The Greater Good

“what in this world as it is can solitude mean?”

- Adrienne Rich, “Yom Kippur 1984”

One evening in the summer of 2018, I took the BART from Berkeley to San Francisco for a university recruiting event put on by the Chan Zuckerberg Initiative. The event was spotlighting the Summit Learning Platform, one of the growing projects within CZI. Summit Schools had begun as a single charter school in Silicon Valley focused on personalized learning. They quickly grew to a network of charter schools across California and Washington. At first, Summit looked like a charter success story. A noted critic of prominent EdTech schemes, scholar Larry Cuban, had published a series of blog posts praising Summit’s approach. And for a pedagogical movement that tended to be in vogue among the rich and powerful, Summit had impressive track record in terms of equity. While technology was involved in their model, the core of their project focused on metacognitive skills and mentorship, similar to programs like the Met Schools. But Summit had attracted the notice of the Chan Zuckerberg Initiative, determined to put millions of dollars into personalized learning programs. CZI wanted to scale up Summit’s model. So, they created a separate but related initiative, a platform that could ostensibly be used by any school to support personalized learning. Wanting to go big, they then offered the platform free of charge to public school districts across the country. For school districts, CZI was offering an attractive technology – basically a sophisticated learning management system – with a promise of ongoing maintenance and training for what seemed like adaptations to school behavior that aligned nicely with pedagogical goals and the sheen of the innovative. Summit and CZI weren’t the only game in town for personalized learning platforms, but because of their affiliation with Facebook, they were interesting and had a veneer of Silicon Valley style about them that others couldn’t match. Summit asked school districts to take them up on not only using the platform they had developed, but also in some cases on the curriculum that came with it.

This backfired for the company when parents at traditional schools became concerned about young children spending hours in front of screens and being exposed to sometimes questionable educational content that hadn’t been screened by district representatives or, sometimes, the classroom teachers. In spring of 2019, at a moment when Facebook was taking a PR beating for a number of high-profile failures, the *New York Times* and other media outlets pointed to Summit’s involvement in public schooling as yet another case of Facebook’s efforts to undermine democracy (Bowles 2019). Parents at a Connecticut middle school (including a cousin of mine!) revolted, citing concerns about data privacy, pedagogy, and inappropriate content (Tabor 2018a). Students at a Brooklyn High School walked out of class in protest (Tabor 2018b). Summit scaled back their outreach efforts and changed direction. While they continued offering modular curriculum to some schools, including online schools run by rival charter management organizations, they made a show of listening to teacher and student feedback and emphasizing their platform rather than the content it could hold or the practices that might surround it (though some of those were built in or encouraged).

But that night in San Francisco, in a loft like event space filled mostly with undergraduate students eager to join a fast-growing tech company that would also contribute to the public good, CZI representatives were still eager to pitch the crowd on the story of personalized learning, to

explain why working to promote Summit was not just like any other tech firm. With music pulsing through the walls and a strictly policed one drink maximum, CZI set the mood as fun, but also socially responsible. After offering an already mythologized backstory of CZI, which launched publicly in the form of Mark Zuckerberg and Priscilla Chan's letter to their newborn daughter at the end of 2015, a Summit employee passionately pivoted to the product. He told us he would share some of his own experience in high school to illustrate how it was the "antithesis" to personalized learning, which he defined as "instructional approach that attempts to address diverse needs, interests, and goals of individual students." The story that followed hit on many of the themes I later heard from virtual school participants and proponents about how the standardization of conventional schooling posed barriers to their growth. He first told us that in math, he had significant highs and lows. He was very good at geometry. But he had to wait for 20 minutes for the rest of his class to internalize the concept he had intuitively grasped. For those 20 minutes, he remembered plaintively, he "screwed around." It was, plainly, "a waste of his time." Yet then in AP Calculus, he realized a lot of people were better at math than he was. He took a pop quiz and failed. In the lead up to a big test, he worked hard after school, doing extra practice and homework. But when he took the test the next Monday, it did not go well – he basically failed. "It sucked," he said, explaining that he vividly recalled that moment of academic struggle, of truly trying to learn something, but not understanding what was happening in class. And then – the teacher said it was time to flip to chapter four and move on. The rest of the class had proved themselves ready, and even though he wasn't, it was time. Whereas previously he had ached to charge ahead, and felt burdened by the extra explanation his classmates required, now he wished for more time and support to master a concept, and found that longing denied. As he put it, he got the "short end of the stick" – he was "held back by serving the greater good." Because the school was not set up to adapt the pace of the curriculum to each student's individual proficiency, he argued, he had lost out on some important knowledge. The speaker paused dramatically at this point, looking out at the crowd. Then he asked us to raise our hands if we'd had similar kinds of experiences. Almost every hand in the room went up. "It's not a coincidence that all of us deal with these frustrations," he said. "It's a manifestation of a systematic problem in our education system. The person standing next to you could not be more different than you – why have we bought into a system that treats them the same?" With Summit and personalized learning, he explained, students learn at their own pace in the way they learn best – "no waiting for class to catch up." The vision presented here exemplifies Greene's (2021) argument that institutions of social reproduction like schools are currently under pressure to transform to match the values of the tech sector, even if doing so runs counter to their collective mission. He explains that under this process, schools are tasked with setting the stage for their own obsolescence by producing subjects who have "no need of these institutions; they can learn by themselves, work by themselves, start a tech company and weather extreme economic uncertainty by themselves" (177).

Conclusion – "A hodgepodge of flights"

Before the COVID-19 pandemic, fully virtual schools existed on the edges of society, alternative arrangements that provided for those who could not or would not fit into dominant institutions. Yet as is clear in the story of Summit, the ideas that animate virtual schooling are wide-spread and can appeal to anyone who feels their needs are not being met by conventional education systems. These groups are not homogenous. Tsing (2015) writes of those who flock annually to

Oregon to pick matsutake mushrooms in the fall, “The freedom of the mushroom camps emerges out of varied histories of trauma and displacement...Pickers navigate the freedom of the forest through a maze of differences” (85-86). For Tsing’s subjects, this means that white American veterans, Laotian refugees, and second-generation Japanese Americans converge on matsutake collection as a way of claiming “freedom,” but that this concept shifts depending on their particular social positions— manifesting as rebellion, as financial security, as nostalgic vacation. The same can be said of those who come to virtual schools. They are fleeing different risks and pursuing different dreams through the means of virtual schools. They come bearing the marks of different social locations. They are united in being exiles and expats – whether by choice or by force – from dominant institutions – to put it in Tsing’s terms, they take a “hodgepodge of flights” away from brick-and-mortar schools.

This pattern is similar to what McMillan Cottom (2017) finds in her study of for-profit colleges, which share many of the same features as virtual schools. McMillan Cottom writes: “students can be demographically different yet have similar needs, but for different reasons” (124). The desire to exit in-person schools can be a move to claim a modicum of autonomy for those who are subject to intensive social controls, or it can be an attempt to remove oneself from any collective responsibility. In her talk “Exit and the Extensions of Man,” cultural theorist Sarah Sharma (2017) recognizes that dreams of exit can hold the seeds of radical utopias, but she ultimately argues against exit as a social strategy, because of its refusal to deal with what is left behind and the unbreakable ties between those who leave and those who stay. At the end of the day, she says, “the escapes are minimal and the routes unknown. If there are exits at all, they are few and far between.” Virtual school might feel like an escape for those who pursue it, but their fates remain intertwined with the educational landscape as a whole.

In her book *The Revolution that Wasn’t*, sociologist Jen Schradie (2019) notes that conservatives hold “freedom” sacred above all else, and chafe at liberals’ care and prioritization of “fairness.” She gently notes that “freedom” here is really power and connects this to established anxieties about losing privileges. The answer of online schooling is not that it necessarily gives a more personalized and caring approach itself, but that it displaces that responsibility onto the parents, the home, and in doing so allows parents control to concentrate their resources into their children without being restricted by the goals of the state, with its focus on fairness. The literature on opportunity hoarding and discussion of integrated schools includes the necessity to give up on trying for “the best” for one’s own child when this conflicts with and actively prevents “the best” for other people’s children. Yet the reasons for opting out, as with other alternatives to public district traditional schools, are going to carry different valence depending on whether people are afraid of losing privileges they have traditionally been afforded and to which they have come to feel entitled or if they have traditionally been marginalized from those same privileges and are fighting to attain them. Both are moves of protection, but they respond at different points in the system. Online schools are not trying to grapple with the discrepancies. They are forming a shadow space where parents are emboldened but it is one that remains tied to the state and its attendant forms of legitimacy. Similarly, conservatives in Schradie’s study remain invested in mainstream news sources despite feeling alienated, misrepresented, and marginalized and of course in the public goods which they understand themselves as holding *ownership* over. She explains that their opposition to collective bargaining with the state is that they as individuals are not represented, meaning that politicians are able to barter greater taxes in order to gain corrupt

patronage from unions without accountability from those who pay the bills— in their imagining, themselves. Of course, this elides the function of these representatives as precisely that and the public servants as taxpayers themselves. Teachers have been caught up in this dilemma, suggesting a link between the individual framing of many virtual schools in considering the motivations of participants and their attempts to diminish the power of their workers, as will be discussed in later chapters.

To some extent, this perspective aligns with a right-wing free-market ideology of small government that argues that government works best by getting out of the way. Even more, though, it fits with the “marketplace” model of education— the idea that parents/students as consumers should be able to pick and choose the elements of schooling they want, from whatever provider they prefer, and discard the rest. This approach has been roundly championed by the Trump administration, and as journalist Anya Kamenetz (2018) has documented, has intersected with virtual school advocacy under the hashtag #iTrustParents. As Horsford et al. (2018) put it, “This focus on individual students and their rights called for by DeVos aligns with neoliberal and libertarian preferences for the allocation of public goods to private sector operators and investors and runs counter to democratic visions of public education and the ideal of the common school” (49). Further, they note that this perspective frames education solely as a consumer good: “school choice policies primarily conceive of parents as consumers in an educational market rather than as democratic citizens” (57).

Of course, as Rooks (2017) and other critics of privatization emphasize, many of the problems virtual school participants are fleeing are the direct result of disinvestment in schools. Neoliberalism often involves stripping resources from the state or creating additional barriers for state-based entities to succeed through constant demands for accountability, allowing private alternatives to swoop in, claiming to offer a solution to the very problems they have cultivated. If schools and other public programs were not under-funded, violence would drop. If universal child and elder care was widely accessible, far fewer people would need to find ways to stay home while making an income. If politicians had not structured school funding and control around standardized testing, teachers would have greater autonomy to allow students creative expression and experiment with pedagogical models. If support services for students with disabilities were fully funded and restrictive and stigmatizing practices were disavowed, parents would not need to take on these roles or seek to shield their children from such detrimental effects. Rather than champion privatized alternatives, these critics argue, we should devote resources to actually addressing these problems within the public school system. But the fact remains that these problems exist— and many families refuse to wait on a large-scale shift while they suffer.

Too much focus on individual motivations and choices can at times obscure the structural roots of the conditions that lead teachers and parents to virtual schools. But careful consideration of these trends can also allow for more in-depth understanding of the forces that shape choices regarding work and schooling, and how these might be adapted. Calls for shuttering virtual schools, even when well-intentioned, risk pushing those within them into even more precarious positions— for themselves or for society. Any efforts to reform virtual schools should be accompanied by attempts to address the problems and desires that led to their growth, or at least should acknowledge what is lost in not doing so.

Online schools offer a precarious alternative— a way to access desired services while escaping an environment that could frame children as deviant and thus do violence, ideological or physical, to them. Families can filter interactions with schools to mediate potentially violent effects, and they can also step in to provide the level of safety, care, and support that traditional schools withhold and refuse. The cost is that families take up this labor unpaid, exerting additional burdens on them as caretakers and relocating the responsibilities from the public to the domestic sphere. For some, this is an active choice, based in the belief that families are inherently better equipped to provide for their children's wellbeing and safety. For others, this is the result of failing to find any other source of support to meet their needs in the aftermath of neoliberal austerity projects – the inability to access needed services or what they perceive to be a safe environment with high quality learning opportunities. In both cases, this becomes an opportunity for the school system to rely on the unpaid labor of families rather than seeking to directly meet those needs.

In the following chapters, I explore how these hopes and promises play out once participants are engaged in virtual schooling. To the extent that they are achieved, what structures and practices facilitate them? What are the roadblocks to making these dreams come true? And what are the consequences of these choices?

Granting students and their families control over the time and place in which school occurs is one way that personalized learning is implemented in the virtual school environment. This method relies on the individual students and families to make choices that align with their needs and desires, though it is limited by ongoing requirements from the school and the state into what kinds of needs and desires are acceptable (timeshifting lessons within a day or week, advancing to the next course in an accelerated fashion) and those which are not (minimal engagement over the course of months, not finishing the allotted year's worth of work in a given amount of time, locations with extremely limited internet access). This model requires the school to know very little about the student or make adaptations to them, because the locus of control sits with the student and their family. This approach appears to erode the traditional responsibilities of teachers by foregrounding the individual and atomized student, embedded within their family, as separated from the network of the classroom and the institution as a whole.

Chapter 4: Precarious Networks of Care: Distributed Labor, Gender and Vulnerability

Overview: Many digital platforms pit consumers or customers and service workers against one another, emphasizing relationships of suspicion and control, or conceal and render human work invisible, deskilling or removing human labor for profit and the charismatic allure of automation. Do these patterns hold in virtual schools, or in other words, how does digitization transform the relationships between teachers, parents, and students, and with what implications? Despite platform mediation obscuring pre-existing avenues of connection, not all virtual school structures are entirely premised on keeping people apart. In fact, many rely on the relational labor of teachers, facilitating ongoing connections in order to keep students engaged and produce appropriate data. I find that while digitization does increase the sense of distance and opacity between teachers and students, interfering with teachers' core ability to practice attunement, teachers develop strategies to recuperate visibility and practice caring responsiveness with students. These strategies entail proactively working to build relationships with students by foregrounding shared holistic humanity, eliciting student engagement, deputizing parents and other family members, making use of passively collected platform data and actively stitched together social information to interpret student experiences, and both sanctioned and unsanctioned in-person meetings that supplement digital communication. While these strategies have uneven success and rely on fragile and often unsustainable conditions, they nevertheless expand the reach of virtual schools. These findings suggest that platform visibility is not an inherent good for cultivating remote connections, instead, supporting trust building practices while making visibility optional is likely to yield better results for school communities. Further, while affective and relational labor undergirds the functioning of these virtual school systems, it also provides workers with leverage against the threat of decomposition, leaving companies with reasons to work towards diminishing or replacing these methods in search of higher profits and unchecked authority.

“The failure of the designed city was often averted ...
by the practical improvisations and illegal acts that were entirely outside the plan”
- James Scott, *Seeing Like a State*: 309

“Compromise is what happens when you have obligations to incommensurabilities.”
- Max Liboiron, *Pollution is Colonialism*: 136

Intro

As discussed in the previous chapter, students, teachers, and families seek a certain amount of freedom they find in virtual schools in part by putting distance between themselves and the school apparatus – the building with its unprotected passageways, the cruel peers, the racist and checked out teachers, the hostile and unsupportive administration. Digital platforms are well-known to enable distancing acts. Distributed working conditions enabled by information and communication technologies have often introduced third party platforms into labor relations that reduce or obliterate opportunities for personal bonding between workers and clients, and among workers (Gray and Suri 2019; Irani 2015). As extensive scholarship on today's “gig economy”

documents, platforms often pit consumers/customers and service workers against one another, conceal and render human work invisible, and deskill or automate human labor. Many assume virtual schools do the same, destroying emotional links between teachers and students that predominate in traditional classrooms and undercutting the professional autonomy of teachers by turning them into easily replicable cogs in a vast machine of standardized schooling.

This anxiety is rooted in the sources of language virtual schools often use to represent themselves, their commercial interests, and the shape of better-known efforts to “disrupt” education via digital technologies, Massive Open Online Courses (MOOCs) that cater to what McMillan Cottom (2016) calls “the roaming autodidact.” These factors, combined with many established detrimental effects to workers in other digitization efforts, paint a picture of digital platform intermediaries as inherently damaging to relationships within schools and to the labor power of teachers. Burrell and Fourcade (2021) argue that the reach of digital platforms has allowed “certain occupations (e.g. teachers, cultural performers) to scale up their reach dramatically, possibly minimizing manpower needs and allowing a winner-takes-all logic to take hold” (220). This suggests that the work of teaching online is something that can be one to (very!) many, emphasizing performance style lectures and content development as the core element of teaching.

So, the question arises – are virtual schools wastelands of human connection, reducing opportunities for authentic care by isolating individuals and framing remaining interactions solely within the cold calculability of managerial production? In trying to escape social obligations, do those participating in virtual schools effectively sever affective bonds and destabilize teachers’ professional position in the process?

There are certainly reasons to believe this is the case. My research finds that virtual school platforms place undeniable barriers to shared visibility between teachers, students, and families in structure, policy, and practice, making it challenging for teachers to enact methods of attunement long understood as core to effective pedagogy. The structure of some schools makes these barriers insurmountable. For many, the primary drawback of virtual schools involves a sense of isolation. The structures of distance and opacity that provide protection for virtual school participants and offer cover for a range of behaviors also interrupt connections with the potential to be supportive and interfere with the ability for students and teachers to participate in the processes of learning.

However, teachers in many virtual schools develop a range of strategies to recuperate visibility and establish connections despite these obstacles, including proactively working to build relationships with students by foregrounding shared holistic humanity, eliciting student engagement, deputizing parents and other family members, making use of passively collected platform data and actively stitched together social information to interpret student experiences, and performing both sanctioned and unsanctioned in-person meetings that supplement digital communication. The challenge for teachers in virtual schools, then, is to find practices that can restore the possibilities of attunement while sidestepping the potential for harm. These methods work unevenly to produce ongoing achievements of care, sustaining precarious networks of mutually fulfilling relationships that run counter to the worst fears of virtual schooling critics, recognizing and integrating social elements of learning and in some cases surpassing traditional

in-person opportunities for intimacy and collaboration

The success of these endeavors, however partial, indicates the double-edged sword that platform visibility poses for online learning environments, requiring a careful consideration of design recommendations in virtual learning scenarios. Mandating greater visibility, through policy or design, threatens to alienate many of the same sets of people who fled from traditional schools. Further, I argue that rather than being coincidental or temporary side-effects of virtual school implementations, these practices of care labor are currently *necessary* for the wide-spread functioning of virtual schools. This centrality provides leverage to teachers in digitized institutions, which can be further strengthened through the connections between teachers and parents nurtured in the strategies used to enact attunement from afar. Yet as will be discussed in the next chapter, despite the benefits reaped by virtual schools by these configurations, those managing virtual schools continue to temper these opportunities in search of alternative approaches to governance that would cut costs and diminish teacher power.

Background: Connection and Visibility

Beyond the Individual and the Cognitive

A great deal of scholarship in Science and Technology Studies emphasizes the affective and relational components of what is often depicted as technical or formulaic work. This ongoing academic and activist project seeks to undercut traditional Western dominant dualisms that position emotion and connection as binary opposites to individual intellectual labor. In concert with these efforts, both scholars and activists have also sought to recognize the practices of caregiving or “reproductive labor” as critical, to counter the de-valuing of such work (Huws 2019). In keeping with Western dualisms, these practices are associated with the feminine (which allows them to be de-valued). Complicating the false division of intellectual, emotional, and bodily labor is part of a broader effort to recognize the inherent relationality of the world and everything within it, countering the – again, Western and hegemonic – perception of autonomous entities. This critique has come in different forms, from Indigenous (Liboiron 2021; TallBear 2017; Todd 2016) feminist (Collins 2000; Haraway 1988) and new materialist theorists (Barad 2009; Bennett 2020; Latour 1987; Latour and Woolgar 2013). Disability studies, with its emphasis on inter-dependency (Crosby and Jakobsen 2020), and scholarship on repair and maintenance work as central to technology (Burrell 2012; Dye et al. 2019; Houston et al. 2016), have each sought to forward the basic understanding that nothing exists in a vacuum and that every lasting achievement (from material objects to culture to life itself) requires ongoing action to persist and survive.

A number of overlapping terms exist to describe labor that involves social and emotional relationships between people. Hardt (1999) emphasizes the centrality of the traditionally feminized “affective labor” – “the creation and manipulation of affects” that results in “social networks, forms of community, biopower” – to modern economic systems (96). Hochschild (2003) famously coined “emotional labor” to describe the ways that service workers must perform certain emotions to create the experience a customer is paying for. Pugh (2021) has developed “connective labor” to emphasize the central relationship between practitioners and recipients in fields such as teaching, counseling, and sex work. “Care work” has become a

popular formulation to describe the labor going into everyday practices that facilitate material and emotional wellbeing, with “care” summarized by Maria Puig de la Bellacasa (2017), drawing on as defined by Joan Tronto and Bernice Fisher as “everything that we do to maintain, continue and repair ‘our world’ so that we can live in it as well as possible” (3). From a similarly infrastructural perspective, Baym (2018) defines “relational labor” as “the ongoing, interactive, affective, material, and cognitive work of communicating with people over time to create structures that can support continued work” (19). Shestakovsky and Kelkar (2020) define “relationship labor” as work “carried out by agents of platform companies who engage in interpersonal communications with a platform’s users in an effort to align diverse users’ activities and preferences with the company’s interests.” Thomas et al. (2019) highlight “the deeply relational nature of care work,” even when the object of care is not sentient. These terms combine cognitive, material, and affective elements.

In this dissertation, I draw heavily on sociologist Kara van Cleaf’s (2016) conceptualization of “attunement,” a form of relational practice involving a constant focus on what is happening with others and “making sense of repetitive, if incommensurate, activities” (452). Engaging with a number of feminist scholars who have theorized attunement, anthropologist Sareeta Amrute (2019) understands attunement as “producing an embodied practice of recognizing and then being able to act” (59). Attunement requires learned awareness, based on intimate experience, of how to make meaning in relation – what to pay attention to, how to interpret information, and what kinds of responses may result in desired outcomes given this evolving dynamic. Amrute emphasizes that attunement stands in contrast to typical practices of abstraction, which emphasize a limited set of variables that can be widely generalized, because it “proceeds from all the factors that go into creating a particular alertness to a situation” in an embodied and specific context (59). For van Cleaf, the essential example of attunement is the ideal instantiation of motherhood, which is not based on natural instinct and knee-jerk response but is cultivated through ongoing interaction fueled by affective bonds. She argues that the same kind of labor is present in the approach to digital platforms, a constant effort of seeking to notice, understand, and act in a way that responds to the exhibited needs and desires. Paraphrasing Amelia Abreu, van Cleaf explains that “the labor of motherhood is the original work of data collection and surveillance ... Care work in general involves the collection and computation of multiple sources of data throughout the day” (452). This formulation positions caregivers as the prototypical data scientists, challenging dominant associations of data work as objective or masculine. Instead, attunement arises from social connection, embedding information generation, interpretation, and subsequent behaviors within networks of care.

Much affective, emotional, and relational labor is frequently discounted in circumstances where it is not perceived to be the primary task, as indicated when jobs in restaurants or domestic labor are reduced to tasks like “slinging burgers” or “cleaning toilets.” This is perhaps less true for professions where connective labor foregrounds emotional bonds, like teaching. However, teaching has not always been understood as requiring a sense of trust and mutual understanding. These are contested achievements that remain under attack.

Teaching as Care Work

Teaching has long been caught in the crosshairs of these battles, which include fundamental

disagreements over the core elements of teaching, intrinsically linked to debates about the nature of education. In the middle of the nineteenth century, following a concerted effort, teaching became widely understood as women's work (Goldstein 2015; Grumet 1988). Advocates for the feminization of teaching relied upon tropes of women as inherently nurturing, but as Grumet argues, this did not really change the culture of teaching. Instead, as journalist Dana Goldstein points out, feminization allowed for diminished costs to the state which justified giving women lower wages by devaluing their work. She writes, "the feminization of teaching carried enormous cost: Teaching became understood less as a career than as a philanthropic vocation or romantic calling" (31). This perception persisted in spite of the fact that at the turn of the twentieth century, child laborers "described school as a joyless place of ethnic bigotry, corporal punishment, and mind-numbing rote memorization" in their explanations for why they preferred the factory (Goldstein, 77). At the same time, however, many teachers did approach their work in terms of a moral responsibility, in addition to their interest in financial security. In particular, Black teachers working in segregated school systems were often driven by an investment in communal care that extended far beyond subject instruction. Goldstein notes that writer, teacher, and community organizer Anna Julia Cooper "saw direct anti-poverty work as part of her teaching mission. She used the term 'sympathetic methods' to describe her practice of researching each of her students' home lives in order to better understand and address potential limitations on their academic success, such as unemployed parents, inadequate housing, or sick siblings" (64). These humanistic efforts existed simultaneously with the ambivalence and cruelty that the child laborers described. In the 1920s, teaching was further professionalized with the rise of scientific management that introduced new techniques claiming to measure the efficacy of teachers' efforts in the classroom. For two centuries, teaching has encompassed this tension—on the one hand, portrayed as grounded in the affective, relational, and feminized, and on the other, framed in terms of economic rationality associated with masculinity. Of course, these binaries do not hold up in practice. Scholars have made clear that learning is a social process, and that cognition happens within a community (Lave and Wenger 1991; Hutchins 1995). This positioning returns attention to the human relationships and cultural systems within which learning happens. Yet education reformers and tech disruptors often default to describing the dominant form of teaching as "sage on the stage"—a performer isolated from the community of learners, simply transmitting information. This portrayal of unidirectional transfer—what Paolo Freire (2014) calls "the banking model" of teaching—effectively erases the affective and relational aspects of teaching.

While all educators necessarily establish certain norms of expected relationships between themselves and their students, not all teachers engage in Cooper's "sympathetic methods" or, as van Cleef's "attunement." Some teachers work first and foremost as subject experts and eschew practices of what has broadly come to be known as care work. Mol, Moser, and Pols (2010) argue that good care practice involves "persistent tinkering in a world full of complex ambivalence and shifting tensions" (14). Care work involves meeting specific needs, responding to fundamental vulnerabilities and desires. Even if some teachers do not appreciate care work as falling under their professional purview, there is broad consensus that these practices are core to *good* teaching. In her discussion of personalized learning, Monica Bulger (2016) argues that common interpretations of personalized learning by philanthropists amount a staple of good pedagogy across learning environments, unrelated to the technology available in the classroom. Yet many of the practices Bulger describes assume a variety of elements of the physical

classroom that may not be present in the online context, such as the ability to view student facial expressions as a means to monitor student emotions and understanding, leaving opportunities for such care work in the virtual environment an open question. Care becomes an especially important element in the classroom when working with students who are facing broad structural marginalization. In her study of Black teachers in segregated schools, critical education scholar Vanessa Siddle Walker (2009) emphasizes that successful models of care focus not only on how a school uses “explicit school policies” to promote their vision of general student wellbeing, but also “interpersonal caring” which can only be accomplished via “the direct attention an individual gives” to students (65). This interpersonal caring requires teachers to build *interpersonal* relationships with students as unique human beings. Angela Valenzuela (1999) argues that while this “reciprocal sense of connectedness” (63) is “the basis for all learning” (61), most teachers at the school she observed have a different model of caring, one which requires students to demonstrate care for the mainstream academic project by conforming to performances “that purportedly lead to achievement” (61) – placing the burden of care on students to connect to the school’s goals, rather than on teachers to connect with their students. An overarching emphasis on conforming to these performances– following particular racialized sets of practices designated as appropriate for schooling– leads teachers to ignore the task of establishing holistic relationships with their students, denying them opportunities for learning.

How do virtual schools intersect with these patterns? Virtual schools seek to accomplish institutional caring in part through their policies of broad acceptance of the habits of work, their diminished requirements for students to conform to particular sets of behaviors. They promise to minimize the opportunities for teachers to demand the type of performances that Valenzuela was concerned with. But in doing so, they also erect barriers to creating the “respectful, caring relations” that Valenzuela and Walker make clear students crave and require to flourish. This undermines the fundamental structure of successful teaching, and teachers must find ways to adjust. However, their strategies of recuperating visibility can lead once again to judgements based on how well students align with an imagined norm.

The Consequences of Platform Mediated Work

There is a pervasive fear that digitization threatens to make teaching vulnerable to deskilling, undermining the labor power of teachers by migrating decision-making authority into the hands of technocrats and private companies (Roberts-Mahoney, Means, and Garrison 2016; Williamson 2016, 2017; Zeide 2017). Further, many researchers have expressed concern that digital platform mediation diminishes opportunities for worker advocacy.

One method for this is through the dissolution of relationships between workers, consumers, and managers (Gray and Suri 2019; Irani and Silberman 2013; S. T. Roberts 2019). As Gray and Suri discuss, many digital platforms create a “shadow workforce...veiled from consumers who benefit from it” (x) to obscure humans behind labor which is presented as being automated. Without being confronted with a worker’s individual humanity, people may treat them in a more utilitarian way, understanding them only for what value they provide. In addition to this interpersonal distance and its potential to diminish affective bonds, the loss of visibility into worker activities can also lead to erasure of the labor workers undergo in order to make systems work. “Ghost work” that pervades much of today’s on-demand economy deliberately obscures

workers from consumers, deflecting public attention away from precarious working environments, low wages, little job security, and few benefits (Gray and Suri 2019; Irani and Silberman 2013).

Another approach is via the deconstruction of complex work processes into discrete tasks and the shifting of control for the implementation of work from a worker's expert discretion to a manager's behind the scenes determination, utilizing a number of separated individuals to perform tasks via standardized documentation (Khovanskaya et al. 2019). As Gray and Suri note, the introduction of new technologies has often "repurposed and shuffled labor demands to a new set of temporary workers," simultaneously opening the door to paid labor to those previously excluded, but also re-casting the meaning of that work often towards demeaning it as "unskilled." Scholars have highlighted how digital tools and platforms can enable enhanced scrutiny from a wider array of stakeholders, including clients and consumers, making workers vulnerable to discrimination and hostility (Poster 2019; Stark and Levy 2018; Ticona and Mateescu 2018). Khovanskaya et al. summarize recent scholarship as having determined that "in measuring worker performance and exerting control over the work process, technology systems have a tendency to promote managerial interests" (3). As Stark and Levy (2018) have argued of parents, and Kumar et al. (2019) have extended to teachers, surveillance is encouraged through digital platforms that frame such monitoring as a normative responsibility for care workers, paid or unpaid.

But new forms of visibility can alternately increase worker agency and make labor easier or more fulfilling. In the context of schools, Crooks (2019) has pointed out that teachers and students can strategically use gaps in visibility between data and experience to manipulate the interpretation of such data to their advantage. Increasing visibility allows new entrants to participate in a "community of practice" (Lave and Wenger 1991), and may even be necessary to develop the affective bonds that structure certain forms of work. For content producers, for example, revealing more of their lives can strengthen fans' sense of commitment, however, this means that they face increased pressure to forgo privacy and present the version of themselves that fans want to see (Abidin 2015; Baym 2018; Stuart 2020).

Khovanskaya et al. (2019) have shown that with increasing digitization and automation, management practices focused on scientific efficiency that have devastated other industries now pose a heightened threat to labor that is cognitive, complex, and distributed. They point out that while scientific management is often associated with "low-skill contexts," one can instead argue that "the methods directly led to the simplification of high-skill tasks and the subsequent deskilling of once high-skill work" (7). Given the established influence of scientific management on teaching, their findings are certainly relevant to this domain. In addition, their focus is on crowd workers producing and managing data, and as I begin to discuss below and explore further in the following chapter, data production and transformation becomes a key task for teachers in virtual schools. In particular, they establish that crowd work is subject to the process of breaking down the previously holistic actions of skilled workers into discrete tasks coordinated by managers, who can delegate various aspects of a labor process to different workers using "standardized documentation." This undermines labor power because each worker now has limited visibility into the overall project at hand and can be easily replaced. As Khovanskaya et al. argue, "This loss of privileging of workers' unique knowledge about their work context has

consequences for how we think about worker advocacy” (8).

Disruptions of Distance: Difficulty of Knowing, Lack of Visibility

In May of 2019, Megan (T18) and I sat in her office, an alcove above the stairs on the second floor of her single-family home. The sun is streaming in, and you can see evergreen trees swaying through the window above her desk. At Megan’s invitation, I’d taken the bus out to the suburbs to observe a day of her teaching. Megan’s home is across the street from a park and flanked by similar mostly two-story homes. Megan, who has recently turned forty, is a short white woman with honey blond hair wearing yoga pants. When I arrived, she introduced me to her very tall husband, a professor who is on sabbatical, and her rabbit, who is sitting in its cage. Her two children are at their local elementary school. Her desk faces the wall. There are 4 posters surrounding the window, photos of actors I don’t recognize, which are signed to her. In the hallway are National Parks posters and high-quality photos that seem like they might have been taken at those parks, and a quilt with patches from parks they’ve visited. Photos of her children are interspersed throughout. Next to the desk is a bookcase with a number of education classics, including Friere’s *Pedagogy of the Oppressed*, Kozol’s *Amazing Grace*, Dweck’s growth mindset, Delpit’s *Other People’s Children*, Woodson’s *The Miseducation of the Negro*, and Kohn’s *The Homework Myth*. Her desk has a laptop, a printer, and a clear tray filled with documents. The space isn’t meant for two people, and I sit behind her office chair in a chair that’s low to the ground, kind of like a bean bag, one of those cloth ovals, covered in a sports blanket. On the floor there are some piles of worksheets and a clear box of files.

Her first class connect— a live class session for middle-school Language Arts— starts at 10:30. I adjust my chair so that I can better see her screen. I’m self-conscious of being seen lurking in the background until I realize— there’s no camera on. She enters the session five minutes early and immediately starts to have connectivity issues. “Of course, the one day someone is coming to watch me, is when Blackboard goes!” she laments, referring to the software used for synchronous lessons. It seems to stabilize. We can see a list of students who are signed into the session, and some are using the chat function to talk a little back and forth. Some have emojis next to their names, and one has put in the popular song title “thank u next.” There’s a notification sound at 10:30 and Megan unmutes her audio. “Can you give me a green check, or hello in the chat, or a smiley face?” Reading through messages in the chat, she sees a student has questioned her absence and replies aloud, “I’m right here, class hadn’t started yet!” As she sees the responses from students come in, she says their names and welcomes each one. “Excellent, Ava, I’m so glad you can hear me today,” she responds to a student. “I hope everyone can hear me, if not, log out and back in, or you can call in with your phone for audio as well. Do I have a volunteer to read our mission and precept of the day?” These are shared on a screen in the virtual classroom. “Alex, go ahead.” There’s silence. “Alex, go ahead, you can read it.” Tentatively, Alex says, “Hello?” Both Megan and Alex’s classmates reassure her in the chat that we can hear her. She reads the mission and precept aloud.

These first few minutes of this class contain incessant reminders of the gap between teacher and students. In stark contrast to all the details I learn about Megan from my brief time being in her home, Megan’s knowledge of her students (and, for that matter, my understanding of them) through this interaction is severely constricted. All we learn in that moment is student names, the binary status of whether or not students are signed in, their response or lack thereof to Megan’s request that they indicate their presence, and whatever they choose to enter into the (optional) chat. A student assumes the teacher is not present, when in fact, sh’s been there the whole time.

Despite the fact that these class sessions have been running for the entire school year, and that many students and teachers have been participating in this school for years, there is still ongoing uncertainty about whether or not what is being said is perceived by others. Some students' status in the classroom is partial or precarious, flickering in and out.

My observation of Megan also reveals a great amount of personal information about her that was not available to me when I previously shadowed her during an in-person day at the Lake School, or when we spoke during lunch in the teachers' lounge. Without her having to tell me directly, I learn about her love of the outdoors and fandom, the shape of her family, her commitment to anti-racist and critical pedagogy, and many elements of her socioeconomic status. My access to Megan underscores our mutual lack of access to her students in this moment, while at the same time emphasizing the kind of distance that is in place between students and teachers in a typical school.

In connecting with students, Megan has several advantages that many teachers in virtual schools lack. Students are (at least on paper) required to attend bi-weekly synchronous online lessons. She has spent time with most of these students in person weekly throughout the school year. There are only 11 students in her classroom on the day of my observation, and Megan's total number of students is on par with or less than a typical district schoolteacher in her area. All her students live in the same city, creating a shared geographical context.¹² The Lake School provides a physical space where students are welcome to use the internet if they are unable to access it at home. Despite all these factors, there is a constant gap between Megan and her students that must be repeatedly addressed.

This pervasive sense of distance and opacity was a common refrain among teachers in virtual schools. Even in synchronous class sessions, students generally did not have their cameras on and often lacked the option to enable this functionality. For a long time, this surprised me. Blackboard, a content management software used by some virtual schools, similarly promotes the assumption of shared video with images of virtual classrooms filled with smiling faces.¹³ Because of my limited ability to observe virtual classrooms, I struggled to shift my default assumptions about what it meant to be "in a classroom." For example, by the time my childhood friend Ashley (G5) and I had lunch in September of 2018 while she told me about her sister's experience at the Lake School and the broader context of her family's experience with educational institutions, I had already interviewed more than a dozen other people directly involved with virtual school platforms. And yet, I was still taken aback when she described the changes she wished the school would make to their classes:

Ashley: Show your video. Let's see your face at least so it's not just a voice going 'wah wah wah wah'.

Anne: They never see the faces?

Ashley: Never. It's just a voice.

12. This is at least true on paper. In practice, I am aware from spending time around the school administrators that some students leave the country for months at a time. As discussed in the previous chapter, many participants at virtual schools mention having the freedom to travel as a major benefit of the arrangement. So, it's possible that some of the 11 students in the class, for one reason or another, are not actually in the city, at least that day.

13. <https://www.blackboard.com/resources/about-blackboard-collaborate>

Anne: I wonder why?

Ashley: They can push a button to raise their hand. They can type a question or use the audio. There's never a face.

Anne: Huh. I wonder what that's about.

Ashley: I don't know. It's an option. I'm not sure why they don't use it. I think it would help.

The explanations teachers and staff gave for the general prohibition on student video in virtual classrooms were varied and vague. Although virtual schools promoted their lack of shared and structured space as embracing the diversity of student lives, the heterogeneity of student environments and the lack of physical control teachers had over a student's surroundings posed several potential problems from the point of view of schools. Uncertainty about what would be seen if students turned on their cameras was often viewed as a threat. On the more innocuous side of things, some teachers argued it could be distracting. Catherine (T2), an English teacher at a selective private school where it was the norm for students to have their videos turned on in their mandatory synchronous classes, described the typical relatively banal scenario: "It's a Brady Bunch thing, where you can see everyone nodding, sneezing, or drinking a cup of coffee, water, or whatever." While most of these activities might be common and unremarkable in a traditional classroom, in the virtual classroom, greater diversity combined with the zoomed in nature of video cameras could generate interest and attention that might detract from focus on the day's lesson.

Limited access to high-speed internet or expensive data plans, which make it easier to consistently share and receive video streams, also played a role. Emma (T17) also pointed out that technical difficulties, more likely to arise with computationally intensive video sharing, could distract from connecting with students. During our Zoom call, she explained, laughing,

When you talk, your lips right now are synced with your voice very nicely. In Blackboard Collaborate, it's not. I will speak, and then two seconds later, my lips move. That's why it's distracting for the kids. They'll be like, 'Ah, you're speaking, but nothing's coming out,' or, 'I hear you, but your lips aren't moving.' Then, they'll move. It's just not worth the trouble.

When Greg (E16) reviewed relevant portions of this dissertation draft, he pointed out that video was actually enabled for Lake students during class connects. However, he recognized that despite the best efforts of the IT team, students laptops might be damaged in ways that prevented video use.

Using video could be a pain point that took away valuable instructional time as just another technical element to manage. In a video that David (T12), sent me of one of his online synchronous course sessions, I watched this tension play out in real time. I could see only the shared whiteboard but was able to hear his conversation with students. David had put basic algebra problems on the white board for students to solve upon entering the class (see screenshot below).

Welcome to class. Please solve these problems on the board. Pick one, and do your best to solve it. Good luck. May the force be with you

$$2x+6=9$$

$$\begin{array}{r} +6 \\ +6 \\ -6 \\ 2x=3 \end{array}$$

$$5x+1=10$$

$$3x-1=18$$

$$A + - A = 0$$

$$\# + - \# = 0$$

$$4$$

$$m + 5 = 9$$

$$\begin{array}{r} +5 \\ +5 \\ -5 \end{array}$$

$$m=4$$

When the students hesitated and struggled, he began to talk through each problem, posing questions to the students about the steps of the process in a common technique to provide scaffolding to learners. If his query was met with silence, he would move forward, answering his own question. About five minutes into the exercise, he checked for their understanding—did what he was doing make sense to them? Several students expressed confusion and uncertainty. He began to talk through the next problem, asking “What do you think is supposed to happen to that one? What am I supposed to add or subtract?” One student tentatively offered an answer verbally. David sighed and told the student, “I’m sorry to have to tell you this, I’m going to turn on my mic [sic] and you have to see me, I have to tell you something, do you see me?” The student did not. A back and forth ensued in which a second student (in a voice familiar to anyone who has ever been on a Zoom call while a presenter tries, without success, to share their screen) tried to instruct the first in how to view the teacher’s video. David, thinking the student was speaking to him, tried to adjust his own settings, prompting the more tech-savvy student to attempt to explain how the student interface differed from the teacher’s, such that they had to alternate between views of the board and the video, rather than seeing them simultaneously. Returning to the original student of interest, now several minutes after his original comment, David asked, “Anyway, you see me now?” To which the student replied, “Mmm, no.” David, slightly deflated at first, but quickly regaining his energy, said, “OK, well, **I’m looking at you**, and I’m saying [theatrically] BRAVO, BRAVO, you got it right. I don’t know how you can’t see me; I’ll do it in class with you, that’s OK. Um, kind of a dorky thing, but whatever. Um. You guys saw me? [other students], you saw me?” Several students tepidly murmured assent to having witnessed whatever visual display he put on. Being unable to see the action myself, I was left imagining what kinds of gestures he might have tried in order to applaud the student. It was clear that the hoped-for impact of his performance—the contrast between his sigh, suggesting the student was wrong, and the anticipated sudden joyous unveiling of his success, a point of connection—was completely lost in the midst of the technical difficulties. The student, who had

been left hanging, unsure whether or not his answer was correct, may have lost out on the potential benefits of the direct attention and approval by the time it arrived, modified and insecure. This incident provides a reminder both of teachers' general default reliance on visibility in order to enact attunement with students, *and* the ways in which attempting to recreate that visibility in this virtual setting could be a losing proposition.

Beyond distraction and technical difficulties, however, schools also were clearly sensitive to the context collapse that arose with having class take place in students' homes. Stacey (T19), at Cardinal Pacific, succinctly stated, "We don't use webcams unless it's one-on-one just for student privacy." This became an area of intense contestation during the covid-19 pandemic, as many teachers newly forced into virtual schooling demanded that students keep their video cameras on in order to retain a visibility similar to that they are accustomed to in the virtual classroom. Some schools controversially adopted this as official policy, while others simply encouraged students and teachers to be "camera on." The backlash to this practice was strong—many argued that students should not be obligated to reveal their personal and domestic spaces in the classroom. Doing so violated what Helen Nissenbaum (2010) has called "contextual integrity," where information is limited to the expected social sphere and does not travel unexpectedly in ways that violate social norms. In addition, privacy advocates pointed out, other people who were not enrolled in the course's privacy could also be at stake, including children and parents or other household members who had not proactively consented to this visibility. The furor over this controversy reveals that moving online does not only diminish visibility but can shift the kind of visibility teachers and schools have access to, increasing their view of certain parts of students' lives. Yet efforts to reclaim visibility in this way were fraught because of the additional perspectives they provided.

In particular for virtual schools, there seemed to be a specific anxiety about children being on video linked to wide-spread moral panics around the sexualization of children and the association of the internet in general, and webcams in particular, with pornography. During an interview, David referenced this sensitive subject in a typically vague fashion: "Most of the time you don't see video, because I guess there's rules in terms of looking at kids or whatever." Yet interestingly, cultural anxiety about potential sexual assault of students by teachers that dominated in-person interactions did not here translate to virtual interactions, where it was more common for students and teachers to have their webcams on 1:1 than in a group setting, despite the fact that a group setting could provide greater accountability against abuse, and that group meetings were more likely to be recorded. But despite pervasive fears about sexual harassment and assault online that seemed to hover in connection with video visibility, this did not seem to be a concern for virtual schools. Perhaps this is because of the emphasis placed, as we will see, on the role of the learning coach, such that teachers and students' relationships were always assumed to be monitored by parents or guardians, even though teachers were simultaneously aware of the gaps in such surveillance.

Many teachers repeatedly bemoaned losing access to their prior everyday practices of noticing and understanding what was happening with their students, homed in the physical classroom. The very qualities that drew many students to the virtual environment could undercut opportunities for teachers and students to connect that would allow teachers to observe and respond to their students. The distance between them and their students was constantly

reinforced through the opacity of student actions. Teachers at virtual schools quickly learn that they cannot rely on the previous ways of knowing students— knowing who they are, where they are, and what they are doing. The information they have about students in that moment is radically reduced. Lily (T8), a high-school social studies teacher, gave a typical explanation:

When you're at a brick-and-mortar, it's a lot easier to read the class, because you have you can see their eyes, right? You can see if they're dazed off – then they're not paying attention anymore. Or, if they're like, chatting to somebody else [laughs], or if they're watching a Youtube show, right?! You can see all that stuff, which I can't see all that stuff [in the virtual class].

Lily and other teachers reported having lost the cues they were familiar with in order to assess a student's response to what was occurring. Without these signals, teachers sometimes struggled to react to students. Emma (T17), repeatedly mentioned her reliance on the visual in her teaching and the pain of its absence: "Teaching online is very difficult because you can't see if the kid's walked away." The lack of "face to face contact," for her, was "the hardest part about online learning and online teaching." Ashley (G5) knew from her personal experience as the guardian of a middle school student that what she could know from being in the room with her child, and what the teacher could know from the same experience on the other end of a computer screen, differed significantly. Laughing, she said,

You really don't know. Like, in an online class connect. If a student is logged in, has their back turned, and is kind of just twiddling their thumbs or they have ADHD and they're just a space cadet, you really wouldn't know.

Ashley was often frustrated with the disconnect between how her sister's teachers perceived and evaluated her sister's performance in comparison to her own assessment as the child's guardian. Her concern extended beyond utilitarian aspects of tracking student performance. After all, part of the allure of virtual schooling was the limited control the school claimed to exert on the specific aspects of a student's behavior. As long as the work was turned in on time, it shouldn't matter if at a particular moment a student was "twiddling their thumbs" or talking to a friend. But Ashley suggested that this opacity had broader consequences for the relationship between teachers and students. She described having the sense that without daily in-person contact, teachers began to see students generically, "as a number," making unwarranted assumptions about them because they had lost the strategies they were familiar with. "Did you even get to know me as a person?" Ashley wondered, imagining a student's perspective.

This opacity and subsequent alienation went multiple ways. Teachers often found it difficult to share their personality and connect with students with limited communication channels. Vanessa (T5) lamented,

You can only build so much rapport from the phone. That was my biggest niche in the [in-person] classroom, that was my area ... I would build rapport, I would joke with my kids, and you could be sarcastic ... your physicality in the classroom, and how you deliver things – it's different. And I feel like you can joke more with students. Because if you're on the phone, if you're joking with them, not a lot of them get sarcasm. Not a lot

of them understand what you're saying. So, you have to be very clear about it. When you're in the classroom, again that physicality changes things. And how you interact. And how you're joking with kids. Because they— they can see your face. They can see if you're kidding. So that's different. And I know, for me, when I was in the classroom, and you're in there, and you see them every day. And you spend more time with them. As opposed to making sure you talk to them in a five-to-ten-minute conversation once a week. I think that you build a stronger rapport in the classroom ... [In the virtual school] they don't know you. They don't – they see a picture of you, but they don't see you. So, I think it's harder to build that rapport.

Teachers rely upon rapport to create trust with students, so that they will be more willing to share what is going on with them and more motivated to expend effort (knowing it will be recognized), allowing teachers to better respond and students to progress further. In other words, building caring relationships is not simply a moral obligation, but also an effective pedagogical tool. But teachers also find authentic relationships with students to be a key benefit of their job, something that re-energizes them and gives them a sense of purpose. As one teacher who talked to me in the teacher's lounge at the Lake School said, "I became a teacher to see kids, and I'm not even seeing anyone this morning. It's weird, I don't like it." Teachers mourned these lost opportunities not only because it made their jobs harder, but also because it made them less fulfilling.

The loss of proximity and subsequent disruption of closeness could also contribute new emotional hazards to teachers when they feared for students' wellbeing. This came not just from being unable to see students, but from spending a much smaller period of time in synchronous communication with most of them, and without sharing immediate surroundings. Anthony (T3) referred to feeling like some students he spoke to were "at the bottom of the well" or "under a rock"— analogies of being hard to communicate with, of obstacles in the way of their connection. He forlornly declared, "in a traditional setting, you might have more avenues to reach out to them. You know, you'd see them..." These students became fundamentally inaccessible, their lives opaque. For many students and parents, this was by design. But once again, teachers and parents could disagree on what safety looked like for students. Without a window into their world and the capacity to interact directly, teachers feared the worst with little recourse to intervene.

In addition to the limitations on sight, virtual schools often draw from a much more geographically distributed population than local public schools, or even charter schools, adding an element of distance beyond remote and opaque interactions. Teachers might never have set foot in the areas their students lived in, thus not only missing opportunities to know their students as individuals but allowing them to be ignorant about their communities and lived environments as a whole. One aspect of the governance structure of virtual charter schools in California, for example, is that schools are allowed to enroll students from all neighboring counties. This means that virtual schools are often chartered in small rural districts (which receive financial incentives from the state for taking on the accountability role) and then go on to enroll many students from neighboring large urban districts that have very different social and political demographics and geographies (In the Public Interest 2015). Teachers might be from anywhere in the region. This dynamic was even more pronounced in schools with a more

distributed student population. At state-wide Pelican School, Vanessa (T5) explained– “I’ve lived all over the state. So, I got used to the areas and how they’re different. You have some that – I know some areas are not going to be as technology driven ... it’s just different regions. Different regions, different types of populations, different cultures.” In addition, she mentioned, some locales had a high percentage of students whose families primarily spoke Spanish, and another area of the state was in an altogether different time zone. Vanessa argued that this diversity “is kind of like a traditional classroom. Because, whenever you open your door in a traditional classroom, all of those kids that are coming in have different backgrounds. And different home lives.” However, in this distributed environment, shared points of reference might be even harder to come by. For teachers who had not been as mobile or cosmopolitan as Vanessa, there could be a steeper learning curve in coming to understand the differential experiences students faced based on their locations and communities. While I observed at the Lake School, one teacher dismissively complained about a family who could not reliably afford internet access by saying that they should just go to a library or a Starbucks. Another teacher gently commented that the library might limit their hours and suggested finding out where they lived in order to make better suggestions about their options for access. Similarly, Amy (T21), teaching at Cardinal Pacific, recalled,

I was talking to a student whose internet was down for a week, and they couldn’t get it fixed yet. Oftentimes, we’ll encourage families if there’s something like that that comes up, and it just can’t get fixed for a little bit, to go to a local library, find another way that you can still get work done. I’d made that suggestion, and she explained how far away the closest library was and that it wasn’t a safe area. Then I was able to look at where she was located and realize, ‘Oh, yeah, that’s not a safe area,’ and realize ... that student wasn’t trying to just make an excuse that she can’t get to the library.

The geographic distance between teachers and students and its effects on relationship building could be heightened by inconvenience, or by school policy. Shannon (T4) noted that several of her students bemoaned the lack of in-person events near them. The Pelican School’s policy was that two teachers had to be present for any in-person interaction, and no teachers lived in that area. She recalled, “I know teachers that have driven, I mean, across the state– I drove three hours for a college visit last year, because there was no other teacher to do it.” Even with teachers devoted to going the distance in this way, students in the region were more isolated from their teachers than those in larger and more central metropolitan areas. Even when teachers were aware of local events that might be impacting students’ lives, because they were at a remove from the community, schools could encourage teachers to keep students at arm’s length. Kate (T1) recalled a school shooting that made national news and being told that “Every single student in that county is off limits, you cannot call them.” This seemed counter-intuitive to me – wouldn’t you want teachers to reach out to students potentially going through a traumatic event? But Kate explained that “because they had drilled us to be bill collectors,” because contacting students and their families became about accountability rather than connection, there was concern that teachers would be insensitive to tragedy. This is explored in the following chapter about the consequences of focusing on accountability and ‘chasing data’ over the genuine labor of care and building relationships. Rather than utilizing local knowledge as an opportunity for personalized response, vague awareness of local differences became a reason to further step back from intimate rapport. When local circumstances intervened, teachers and students’ worlds

diverged, emphasizing the gap between them. Distance was implemented not only through the affordances of the digital platform, but through the explicit demands of the organization.

Of course, sadly, much of this is also true in traditional schools— one of the many criticisms that while understandably lobbed at virtual schools is also acutely present for many students in their traditional school environments. Many teachers commute to schools outside the districts they live in— sometimes because they cannot afford to live where they work, and sometimes because they want “better” school choice options for their families than the schools where they teach (and of course, sometimes for a variety of personal reasons). However, in virtual schools, this disparity could be accentuated since commutes were no longer salient. At the Lake School, some parents advocated for more teachers who lived within the city limits, rather than out in the suburbs. However, I also interpreted this request somewhat as an indirect way to express desire for the teacher population to more closely match student demographics by hiring more Black teachers.

In this way, many participants in virtual schools grappled with enhanced distance and opacity that interfered with opportunities for teachers to practice attunement and personalize learning for their students. The isolation teachers describe here echoes the experiences of gig workers (Gray and Suri 2019; Irani and Silberman 2013), suggesting that the introduction of digital platforms has indeed reduced their opportunities for human connection. While the job performance and satisfaction of other types of workers can also suffer when separated from opportunities to build in-depth connections with clients and consumers, for teachers, these relationships were often both a primary reason for their occupational choice and understood as key to their functionality, meaning they were especially impacted by these trends. Perceiving taking care of children as part of their core role, teachers who found that to be disrupted felt the distance all the more acutely.

However, many teachers developed ways to enact attunement in virtual schools, adapting the practices they had developed in physical classrooms or adopting new approaches that rely upon the particular arrangements and affordances of the virtual school. Below, I describe how teachers worked to recuperate attunement in the virtual space, in order to practice a form of personalized learning that relies upon relationships and includes adaptation on the part of school representatives.

Compensation, recuperation, re-creation

“we hire so that we have teachers who have the capacity to connect because it looks different in an online setting than it does in a traditional brick-and-mortar setting, and there are some really, really great bricks-and-mortar teachers who can’t—this is not their jam. It’s not their thing, and they don’t do well in this setting.”

- Barbara (E11), principal of Eagle Academy

Given the different affordances of the online environment and the imposition of distance and opacity between teachers and students, teachers and schools develop a range of strategies for conducting the work of attunement under new conditions. Many of these efforts center on regaining a sense of visibility or other ways of knowing, even though some of this loss was by design, or at least a feature and not a bug for many participants. Deprived of the informational

resources they are used to, teachers must cultivate new practices to both elicit the information they need to understand students and to cultivate circumstances under which their responses to students will be successful.

Building Relationships

Rather than accept a lack of connection as a fundamental element of virtual schooling, teachers become proactive about connecting with students and building their relationships, employing variations on traditional classroom strategies and making use of their unique circumstances. In contrast to many gig economy digitally mediated workplaces, teachers are granted the option of maintaining connection. Although students may feel far away, teachers almost always still know their students' names and interact with the same students directly over an extended period of time, such as a semester or a school year.

Despite disruptions to their strategies of attunement in the online environment, teachers continue to emphasize the importance of caring relationships in their jobs. This runs counter to the perception of virtual schools as being primarily an interaction between humans (mostly students) and computers. This narrative of isolation is active even for those involved in the process, so that a large part of the foundational work teachers undertake is simply to reassert their own humanity, recognize the humanity of students and parents, and center human connections as a valuable aspect of the school. They do this in each interaction they have— during synchronous classes, sending messages about assignments, and in one-to-one conversations through phone or video. As Natalie (E10), said of building relationships with students in a conference presentation on counseling at virtual schools, “being able to see is helpful, but we need to go where they’re at.” Accepting the loss of visibility and moving forward to connect with students anyway comprises a great deal of teachers’ labor.

Teachers proactively create opportunities for students to make themselves knowable on their own terms, and also act to reveal themselves in reciprocal forms. Rather than put students on the spot to begin with, some teachers start out during their initial interactions by sharing details from their own lives. As Kate (T1) explained, her school mandates an initial welcome call with all newly enrolled students. While this is also an opportunity to go over logistical matters, it’s primary purpose is to establish a connection between teachers and students. Kate found that,

Most of the time they didn’t want to tell me because they’re sixth and seventh graders, they don’t want to tell me anything about them. So, I would take that time to tell them something about me. And at the end of the call, they’d usually email me and say, like, ‘you talked about your dogs, here’s a picture of my dog.’ And it would go from there.

Pets were popular building block for intimacy. In addition to offering points of connection, their sweetness and silliness defuse anxiety. While teachers sharing about their pets or asking students to share about theirs might be a part of any school, in the virtual setting it may be especially useful for highlighting the difference between the virtual schooling environment and the traditional school institution, gently reminding everyone involved that they are at home while also at school. Sonya (E1), the Director of Student Life and Community at Ivy High School, explained,

Part of all of our goals is to really humanize the people that work here because you don't get to see them [in the day to day of the school]. We do a lot of silly things, so I always show the students my dog. We talk about my dog and we do things that – we are real humans, and I think that that open communication, opportunities to share concerns or voice opinions, and really seeing each other and in that community really helps.

These efforts position workers beyond their professional role or the practices of teaching or administration in which they are engaged. This allows for a relationship to form that is broader than instruction, discipline, or assessment, a low stakes way to set the stage for sharing more intimate or challenging information, including things that can feel risky for children to share, such as the difficulties that they are having with learning particular material. The personal connection intertwines with the instructional component, strengthening its potency. For example, Jane (T6) explained,

I'll have students reach out and introduce themselves to me. We'll go back and forth. We have a lot of interaction even within just grading when I grade their work. If I can create that connection and make it a little bit more personable, I definitely see that. Maybe they'll leave comments when they submit their files or that sort of thing. I had this one student who was really sweet. In my geometry course, I have a converting a recipe assignment. She went above and beyond. She submitted the assignment and converted the ingredients, but she said, I know that you like cooking, so I thought you would like the whole recipe, the cooking instructions, and that sort of thing. It's those moments that really make me realize, it's not just a computer screen. There is someone on the other side.

Jane's school was one with the greatest separation between teachers and students, with no mandatory synchronous courses. Yet even in these circumstances, teacher and student find ways to connect as people. They refuse to reduce their interactions purely to the task at hand.

Despite the aforementioned challenges of physical distance, some teachers did also leverage local knowledge when they shared geographic proximity to their students. Allison (G2) explained that because teachers and students lived in the same state, they could respond to student mentions of their location with recognition and express familiarity or interest in visiting the town. These moves act as efforts to establish proximity despite being physically separated. Clark and Brennan (1991) call this practice "grounding". I would also engage in this practice with research participants. At the Lake School, I constantly brought up my own experience in the city public schools. At the beginning of my interview with Allison, we had an interaction typical of how I would begin with many Pelican School participants,

Anne: My mom actually lives in [city in the same state] so I heard about [Pelican].

Allison: Oh, yes. It's not too far from us. We're an hour away from [there].

Anne: Oh, okay. She's actually in [suburb]. I don't know if it's closer.

Allison: We're in [town] so we're up a little bit further, but yeah, I know right where she's at.

As is perhaps clear in this exchange, this was a bit of a risky proposition on my part, because I was fairly ignorant of the local geography of the state, where my mother had moved only the year before. Thus, when Allison told me her family's location, I had no idea where it was. But providing these cues to help locate oneself seemed to establish rapport, to create the barest hint of connection, from which one can build. Allison also suggested that proximity may be less important than the effort or expression of interest, saying of her kids, "I think they enjoy the fact that the teachers are somewhere else because it gives them something to talk about."

Teachers and students both put in the work to develop affective bonds, finding their emotional connection to be inseparable from their academic pursuits. As anthropologist Julian Orr (1996) wrote of machine technicians, "The nominally personal and nominally professional cannot be separated in their conversation and may be substantially indistinguishable in their experience" (23). Teachers no longer see students in the hallways, but they get to know their particular ways of communicating. They begin to locate the ways their personalities shine through in each interaction. This makes it easier for them to teach, adapting to what students know and need, and validates many teachers' desires for emotional connections and sense of the value in their work.

Even though they did not always use their video cameras for the reasons discussed above, teachers would strategically deploy the option to help develop connections. Jeff (T9) half-jokingly remarked, "occasionally, I'll use the camera, just to remind them that I'm a real person." In fact, both he and Kate (T1) mentioned specifically turning on their cameras while holding their babies. This not only humanizes them, but emphasizes their own existence within a domestic sphere, responsibilities beyond the classroom, and vulnerability.

Teachers have to work to ease student anxiety and build their trust not only because they are strange adults and lack the visibility of the classroom, but also because in some cases, the circumstances in which students and teachers interact feel narrower and more targeted than in a classroom. While many schools build in welcome calls and live class sessions, the default space of engagement was commonly around assessments or in cases of difficulty. Vanessa (T5) explained that many of the students she works with are "shy" with adults and may not be used to talking on the phone with people outside their families. Their worries are further heightened when they know the phone call involves a test. In order to put them at ease, Vanessa, said,

Whenever I get onto the phone, and whenever we do oral exams, especially the first one, I just, I kind of make fun of myself, you know? 'Listen, I sound like a 12-year-old anyway, I have a very high-pitched voice, so it's like talking to a friend, so let's just talk about what you learned.' I kind of try to make them laugh, and I get into it, so they get used to communicating with me, and talking with me. And I think that after they get through the first one, they realize I'm not out to get them.

Crafting this kind of trust and connection often relied on going outside the bounds of purely academic content. Teachers would often utilize any opportunities where they were communicating with their students to nurture these relationships. Allison (G2) spoke glowingly about how teachers would use time they spent working with small groups of students to connect: "the teachers were able to joke with the kids. The kids were able to see the teacher's personality. It wasn't just the teacher. It was someone you could relate to." Stephanie (E12) found that

strategic early in-person interactions also helped to ease students' anxiety and move from the frame of "screen" to that of "person." After an in-person orientation, she felt students walked away feeling, "I don't need to be scared of her." I asked her why their fear abated after the in-person meeting. She said,

I think that I'm younger that they see me on the screen ... I have a different demeanor. I think it's nice because they know that I'm a school official and that I look at their grades. ... I'm the one that tracks them a lot. That can come across as scary because they don't know what to expect. When they see someone that even just putting a face to a name, I think helps because it's just someone behind a screen [laughter]. When they see that it's an actual person that they can talk to that's there to help them and they listen to the things that I have to say, and they can see me saying it. I think that can make really all the difference because it's a lot. It's hard to read tone over messages, and so I think sometimes when I say, 'Hey, what's going on? Are you okay?' They can take that as oh, no, I'm doing something wrong. When I say it in-person and they can hear me say it, and they can hear the concern instead of me just saying, 'What are you doing?' it helps.

Stephanie's description reflects Lucy Suchman's (2006) naming of face-to-face interaction as "the richest form of human communication"—precisely because it offers an enormous number of "communicative resources" through which people can establish mutual understanding (86). Many of these cues are initially unavailable through other communicative forms. So teachers work to add these resources for interpretation back into their communications with students by meeting in person and allowing students to get to know them so that they will carry the comforting elements of these interactions with them when they return to a narrower communication channel.

Of course, many of the practices teachers engage here are fairly generic, common and uncontroversial areas of connection like pets or sports. As Vanessa put it, somewhat dismissively, "A lot of teachers are so friendly with [students] ... 'Oh, good, you know, glad to hear about your dog,' or, 'Glad you're doing well in soccer,' or whatever it is." But these small-scale interactions and expressions of interest build over time. And while some students may clock the generic nature of these pleasantries, because many of their interactions with their teachers are private, one to one conversations, they also can develop a sense of the special uniqueness of the interactions as they unfold within the domestic space. With no one else listening in, or the provided option of a direct message, these surface interactions can then become a gateway for deeper exchange.

Teachers thus work to overcome the imposed distance and opacity of the virtual environment, which can leave both them and their students flattened and dehumanized, to establish relationships with their students. They share personal information about themselves and expand the range of available social cues and encourage students to do the same, expressing personal interest in them as human beings and indicating their holistic humanity beyond their professional roles. Despite the initial isolation many teachers face navigating digital platform intermediaries, being online does not have to equate to isolation.

Engagement

Once they've established rapport, teachers build on their relationships with students through encouragement, as witnessed in David's aborted attempt at cheering a student's success at a math problem above. Despite the emphasis on flexibility and the opportunities of opacity for student autonomy, students were frequently cajoled into engagement, rather than left to their own devices. Teachers would explicitly recognize their students, as in Megan's greeting of her students by name as they appeared in her live lesson. As if motivated by hearing Ashley's fear of students wondering, "Did you even get to know me as a person?" teachers made it clear to their students that they were aware of them and cognizant of their actions, despite the distance between them. When I observed Ruth (T16), who ran the "gifted" program for students at the Lake School, I watched her gently react to a student she was working with one on one on algebra problems. The student rarely spoke, and neither had their camera on. Ruth suggested, "My guess is you really know this stuff and you were just having a bad day yesterday, you think?" When she received no reply from the student on the other end, she continued quietly, "Not going to answer that one, OK," and moved on to the next step in figuring out $x + 4 = 12$.

Stacey (T19), noted that although she could no longer physically see her students raising their hands, in the virtual environment she would see "their icon hands raised as they had a question, or their little voices come through the microphone." As they became accustomed to the online environment, teachers learned to attune themselves to the available signals, and to elicit signs of life from their students. Megan's tactic of requesting a reaction via emoji or chat was a common strategy, alongside writing prompts and problem sets when students entered a session, as in David's algebra class. In addition to helping teachers get to know who students were, these efforts brought students back into at least partial visibility, creating a structure for interaction to take place.

Because so many students in virtual schools struggled with traditional school environments and had experienced hostility from teachers and peers, much of the ground for encouraging engagement came from establishing a sense of safety for students. When I asked Amy (T21) about her strategies of engagement, she responded that her initial focus was on trying to get students to "feel respected and safe, so that there's some modeling and creating an environment where there's no stupid questions. There's nothing that anyone's going to get bullied for or picked on for or made fun of for asking." Similarly, Brandon (T15), whose students called him Dr. Brown, found that engagement in his classroom improved proportionate to the trust between him and his students. Like other teachers, he made a point of greeting students when they entered the virtual classroom. Building on years of teaching and administrative experience, He encouraged his students to arrive to class early and interact with one another, in an attempt to "establish a feeling of camaraderie and togetherness on the virtual side." Having taught and worked in school administration for many years and received a doctorate in the field, Brandon argued that in the virtual context, the "biggest thing" was that students "need to be heard."

Whenever I introduce a lesson, I always incorporate – What do you know? What do you want to know? What do we need to learn? And you'd be amazed at some of the things that students already know. And what they want to know, and some of their questions. That's the piece that I think that has been most prevalent and beneficial. That they know in this classroom, they have a voice. Yes, they're little people, but they're people

nonetheless. They know that they have a voice in Dr. Brown's class. They do. Now I'm in the process of trying to turn down their voices just a little bit [he smiles, I laugh], just a smidge. But they feel safe.

In addition, Brandon emphasized the importance of practice and shared with students areas in which he continued to struggle, despite his many years of education, in order to diminish their discomfort with uncertainty. This approach had “instilled a sense of just belonging and being relaxed, and just being able to be free in your own skin.” Instead of providing freedom to students through a narrowing of perception and an imposition of distance, Brandon suggested that he wanted students to bring their whole selves into the classroom, imperfections and all. As much as teachers accused students of trying to hide by being in the virtual environment, Brandon believed that what students needed was to be heard, seen, recognized, and then respected and supported as they were— something that had been severely lacking for so many students in their experience of brick-and-mortar schools. Amy and Brandon proposed a style of personalized learning that required bringing the student learning process back within the scope of the school's responsibilities, but rather than forcing them to conform to particular standards, appreciating their unique contributions.

Of course, Brandon's mild joke at the end of this quote points to the tension present in this technique. Sociologist Allison Pugh (2015) argues that people often make jokes at moments where they are negotiating how their feelings, behaviors, or beliefs may be in some conflict with dominant norms, or what they know they are “supposed” to say— what sociologist Arlie Hochschild calls “emotion work.” As Pugh states, “the only reason their jokes can be funny, the only way they might work, is if they play with some existing anxious energy” (53). Scores of studies show teachers desperate to quiet the voices of their students, literally and figuratively. Savannah Shange (2019) writes about how non-Black teachers would police the volume of Black students. She quotes a Black teacher, Zahra, saying, “Loud voices! That's another thing that's getting on my nerves – that people assume that just cause a kid is being loud they are doing something wrong!” (83). While some of these teachers are surely motivated by racism (e.g. Shange 2019, Valenzuela 1999), sadism, or general disrespect for children, many teachers may also feel trapped, facing high-stakes evaluations and pressure from student parents or administrators that leads them to shut down student inquiries and contributions (see, for example, (see, for example, Sims 2017, Calarco 2018). These hostile behaviors have driven some of the children who face them to seek alternatives, including in virtual school spaces. Some virtual school teachers understand their responsibility as being to repair some of the harm caused to their students and help to heal the wounds inflicted on them by a traditional school system that has broken their confidence. Brandon, as a Black teacher in a school district with a majority Black student population, was certainly keenly aware of these dynamics. And yet, these virtual school teachers will ultimately face the same pressures as their in-person peers. By bringing students back into view, these teachers form connections with their students that facilitate learning. They create communities in which practice and risk are appreciated, developing a sense of safety. But by piercing the veil into their privacy, they once again place students in a position where they may be subject to greater control.

Using parents

Despite these successes in establishing relationships between teachers and students, virtual school teachers recognize the limits to their ability to connect with and engage students in light of the distance and opacity they face. Thus, a major and explicit element of their strategy is to delegate responsibilities traditionally belonging to teachers onto parents or guardians who are with children in their homes. Many virtual schools have a formally designated individual in this role who they refer to as the “learning coach.” Virtual school teachers and administrators are adamant that participation of the learning coach is vital to student success in the virtual school environment. However, despite the rearrangement of labor and distribution of additional tasks onto the shoulders of parents, likely intended to shave off the burden of care the school takes on, parents acting as learning coaches functionally become unpaid workers supporting school practice. Training and managing the work of these parents often falls to teachers or other school employees, now one step removed from the work they might have done directly in a brick-and-mortar classroom. Despite virtual schools’ central focus on familial control, often presented as student autonomy, learning coaches are rarely left to their own devices.

Learning coaches have specific responsibilities in virtual school structure. Many virtual schools have, over the years, developed materials to make these responsibilities explicit. This stands in contrast to many brick-and-mortar schools. Marion (T13), who taught for many years at the Lake School, described the contrast she witnessed:

When I was in the brick-and-mortar classroom, I taught at a private school, and the idea was well, we’re paying you guys [teachers] in tuition and your school. We’re going to drop our kids off here, and things are going to be good ... I think one parent said that to me: ‘We’re paying you guys, so you ought to take care of [the kids’ education]’ – alright. It was a different time. Now in the online school, parents are supposed to be very involved with their child’s education.

The 2018-2019 Connections Academy program guide lists learning coach responsibilities broadly as, “support and motivate students and monitor schedules.” They are also “encouraged to communicate and collaborate with teachers,” though it is not made clear how these two aspects of the role might intersect (e.g. what are learning coaches communicating to teachers– is it the results of their monitoring? What are they collaborating on– is it how to best support their students?). Parents are understood/assumed to have physical proximity to their students as well as a vested interest in their success, the authority to discipline them, and the knowledge and intimacy to care for them. Teachers rely on each of these qualities, and on the hope (more than the presumption) that parents have additional time or focus–to attend to their child’s schooling, in comparison to the teacher spread out across a large number of students. Yet these tasks certainly overlap with the teacher duties “encourage students” and “evaluate student progress.” Schools emphasized that the roles of teacher, learning coach, student, and even the curriculum, were not mutually exclusive, but rather an ongoing collaboration. Connections Academy referred to the mix of teachers, learning coaches, and curriculum as the “learning triad.” Lily (T8), working for a different virtual school network, also referenced a “triangle,” but for her students were a constituent actor, while the curricular materials went unmentioned:

There’s me – the homeroom teacher, there’s students, and then there’s their learning coach. Oftentimes the learning coach will be either an older sibling, or a parent, or an

aunt, or something ... In order to be successful in the virtual environment, you really need to have that triangle be strong ... we're all supposed to be backing each other up.

Teachers frequently referenced parents or guardians as collaborators and colleagues in the project of educating students, perceiving their relationship as foundational to student learning. This suggested a bi-directional relationship, in which both teachers and parents brought something to the table, helping each other from their unique perspectives and scope of action. As they did with students, teachers developed this relationship with parents with a mix of professional and academic discussion, finding points of connection that could facilitate empathy and trust. This empathetic interaction can sometimes extend even further with parents, as many teachers can easily identify with children, work, and marriage as defining features in parents' lives. Teachers and parents are historically structurally aligned, as teachers have traditionally been asked to take on the role of mothers outside the home (Grumet 1988), and as the popular saying states, "a parent is a child's first teacher." Whitney (T11) was not only a teacher at the Lake School but had also had her daughter enrolled there. In addition to coaching parents on how to use technology and sharing with them upcoming lesson plans, she said it was also important to develop a personal connection.

Just letting them know that they're human as well as us being human, and some of things that you're going through, I've been through that too. Having a parent that's going through a divorce — I've gone through a divorce too, so trust me, I understand. Letting them know that you do understand some of their personal situations because it's not only about engaging the student, it's about engaging the family in this environment

These kinds of connections not only facilitated collaboration between teachers and parents, but also added to the store of knowledge teachers possessed about their students, creating a more holistic picture of their lives. Where they had lost out on the daily visibility of seeing children in the classroom, they gained a window into their home lives. The sheer frequency of communication between teachers and parents in comparison to the brick-and-mortar school strengthened the level of closeness between teachers and parents. What teachers lost in their interactions with students, they could sometimes make up for through their connections with parents. Valeria (T7) gave a typical description of the brick-and-mortar school, where communication was often unidirectional and rare:

In the traditional school, you don't contact families. You have a report card that goes home every 9 weeks, maybe a progress report. I would do progress reports more often than they asked us to, because ... I teach math, so if the student's doing really bad, we can't afford to wait until the end of the nine weeks, and the grading period. So I would do that a little more often, and make them take them home and parents at least initial or something — yes, I saw it. So, yeah. [pause] I mean, you would call if there was a behavioral issue ... I was never required to contact parents. It was never like a big thing in the regular schools.

Valeria's recollection makes clear that there is information being shared between teachers and parents in brick-and-mortar schools— primarily from teachers to parents, which only acknowledgement of receipt required on the parents' part. But in the virtual school, this

interaction is consistently framed as much more active. Shannon (T4), suggested that in addition to increasing the format and volume of communication with parents – with “a lot more calling, testing, and emailing” in the virtual environment – there was also a qualitative shift – “in the physical classroom, I only really called the parents for kind of negative reasons...I definitely work with parents a lot more in virtual school than I did in brick-and-mortar.” Their teacher-parent relationship morphed here from reporting – filling parents in on their students’ activities and achievement – to an interactive collaboration where both parties were involved in the “work” of educating students.

The learning coach’s immense responsibility for their child’s education required ongoing coordination with teachers and other school staff. The achievement of virtual schooling required the active participation of all players. But this flat network structure failed to attribute or account for hierarchy.

The defining principles of virtual schooling would seem to place parents and students in control. And parents would certainly advocate for their students at times. For example, they would object to requirements to represent evolution as uncontroversially true, seek deadline extensions, accommodations, or more personal tutoring, or object to disparaging tone or comments they felt teachers made. Much of the rhetoric around virtual schools, as discussed earlier, was framed around parent choice.

And yet in practice, parents were sometimes positioned as more subordinate members of the community, subject to its existing terms and conditions rather than calling the shots. Teachers were largely responsible for guiding parents into their roles as learning coaches. At times, despite the frequent invocation of terms like collaboration or partnership, teachers treated parents like another set of students they had to cajole or discipline into appropriate behavior. Amanda (T23) described the need to “train the learning coaches on what’s expected, what their job responsibilities are,” so that they could successfully perform their roles. Sometimes, she said, they might become lax in their duties and need to be brought back in line:

That’s some re-training that we have to do, to let them know, just because your student’s older and independent, doesn’t mean you [laughs] can just leave them! So, we do a lot of training like that, with the older students and with their learning coaches.

When I sent a draft of this section to Amanda for review, she replied that she disagreed with my argument here. She explained, “I do not see parents as a subordinate, but more as a colleague. We are working together to ensure the academic success of their student. Most parents don’t have a teaching degree, and therefore need additional support in that area.” In this framing, teachers and parents both learn from each other, bringing unique skill sets to the table. Parents might be seen as often the expert on their child and their circumstances, telling teachers what to know about them or how to express care. At the same time, teachers mentored parents in instructional technique, relying on their professional training to provide stature in that area. In their classic study of learning and communities *Situated learning: legitimate peripheral practice*, Jean Lave and Etienne Wenger (1991) explain learning as “becoming a different person with respect to the possibilities enabled by these systems of relations ... learning involves the construction of identities” (53). In the organization of virtual schools, teachers and parents

effectively learned how to take on elements of one another's roles. At the same time, I would still argue that this is not an even playing field. While parents have the power to determine their children's environments and direct their behaviors, teachers maintain control over organizational requirements and assessment of student performance. This is significant in how it differs from traditional homeschool arrangements. Although parents were granted greater influence than in conventional schooling, the professional expertise of teachers continued to carry weight. Virtual schools here strike a delicate balancing act between providing parents autonomy while insisting on institutional standards. Through their interactions, teachers do the work of ensuring that the educational experience provided meets the criteria set by the state to ensure its legitimacy.

The level of involvement a learning coach should have was ambiguous and contested. If they did too much, it could tip into what teachers perceived as cheating and academic dishonesty. Even at the metacognitive level, some teachers expressed frustration with students who they perceived as shirking their responsibilities by delegating to their parents. Shannon (T4), expressed with some frustration, "You'll get 12th graders who you have to call their parent after every time you talk to them, because otherwise, they can't be held accountable." "They," in this case, is likely intended to mean students, but the referent remains tellingly ambiguous—students can't be accountable without their parents' supervision, but Shannon also suggests that the parent won't be accountable without the teacher's intervention. As virtual schools recognized that some students would not be able to reach the desired outcomes on their own, learning coaches were recruited into the project to shore up the system, removing or at least diminishing the necessity of other measures to prod children into compliance. Shannon's comment, and others, suggested that an ideal student, at least by twelfth grade, would not require the structure provided by a learning coach in order to perform at the level the school required, but under imperfect conditions, learning coaches served as a means to make the grade. Kate (T1), who like Shannon taught at the Pelican School, but had previously worked at a virtual school with much less parental interaction, recognized that students needing this kind of support from learning coaches was much more the norm than the exception. At her previous school in another state, Kate had heard of the Pelican School's massive success with virtual learning— it was, she explained, the envy of the sector in her early days working in the field because of the number of students it graduated and the large size of the staff. Once she began working there, Kate felt she figured out their magic formula: "the forced buy in, almost, from parents and families. You must talk to me. You can't just drop off the face of the earth." If teachers and parents were collaborators in the school project, which almost all participants seemed convinced was the case, this was a collaboration where parents had little choice in the matter if they wanted their students to continue at the Pelican School.

What did Kate mean when she said, "You must talk to me"? Virtual schools including the Pelican School would threaten to drop or disenroll students if there was no communication from them or their families, though Kate told me that as long as a student was active in the system, they would rarely follow through on this. Largely, the demand to communicate was implemented through persistent attempts at communication by teachers and other school staff. Perhaps surprisingly given the online nature of the school, Kate and other online school teachers built their connection with parents primarily through telephone calls. As Cait McKinney (2020) documents in *Information Activism*, this method has ample historical precedent. McKinney lays out decades of feminist scholarship pointing out that "the telephone is understood as a prime site

for women's communicative labor" because it "allowed women confined by homework and childcare responsibilities to reach out to others" (86). Although the telephone had initially been marketed as a business tool, its broad adoption was fueled by women's social interactions (Fischer 1992). While communicative norms have certainly shifted, and schools did make use of email, text, video calls, and automated or mass messaging through the school platform, phone calls remained the gold standard for teachers at virtual schools to interact with parents. No one directly explained to me why calling was preferred or required by schools over text-based and asynchronous methods. However, teachers' and parents' descriptions of the role calling played in their communication suggests several advantages over other potential avenues of interaction. First, parents may not read emails. This could be due to limited literacy or information overload. Emails can easily get lost in the shuffle, and there's no clear-cut way to know whether such messages have been received. Phone calls allow teachers to catch parents on the go or in action, to know whether or not they have connected, and to use the social pressure of the conversation to induce them to keep talking. Using the telephone was a way for teachers to extend the purview of schooling beyond the computer, to remind parents of their ongoing role in student education. Lily (T8) described the process of calling to talk to parents as "really kind of breaking that barrier ... this separation between parents and the teacher." Phone calls also have the benefit of being far more open-ended than text-based exchanges, in part because their contents are not recorded and thus available to direct surveillance. This allows for the development of relationships. Several teachers shared examples of calls with parents that started out adversarial but gave way to a much more collaborative tone. Marion (T13) described,

[some parents] just didn't want to hear that their student didn't come to school today, they're behind, those kind of things. I would always call them ... one of the best phone calls I ever had was with this one dad. His sons really, really struggled with a lot of different ways. I said something to the effect about how great it was to have them in their classroom – I gave him a compliment on his sons, and he just said, 'Oh, I do love them so,' and I was like, of course you do! It was really, really sweet to get that kind of response. He would always pick up the call because I would always interlace constructive criticism with compliments ... You had to develop a rapport, a working rapport with them, and frame it as we are partners working for your child. So, I always presented it that way, always presented it to say, 'hey, I noticed that So-and-so hasn't logged in for three days: what's going on? That would open up the door to conversations, so just framing it as that partnership.'

Here, teachers become the human face of the school. They smooth over frictions that arise during conflicts with school rules and expectations by demonstrating solidarity and compassion. By expressing their care for students and displaying their knowledge of students as people – as more than just their assignments and assessments – teachers convince parents of the importance of being involved. While texts and emails could contain compliments and tailored reflection on students, on these calls teachers could be more immediately responsive, flexible, amenable to storytelling, to finding common ground. As with Amy and Brandon's efforts to create a sense of safety in the classroom, much of teachers' work with parents was in repairing the sense of cold calculability they might have experienced in previous schools. Parents who had chosen to remove their children from brick-and-mortar schools because of their concerns that children weren't being treated well could be wary of teachers. Because as many teachers had noted

communication between teachers and parents in traditional schools was often focused on problem areas, parents might initially have good reason to be skeptical about the usefulness of teacher calls. By making the interaction into a mutual consultation and foregrounding a human bond with both students and their families, teachers built up greater willingness among families to participate in the roles they had assigned to them.

As with deeper relationships with students, nurturing these connections with families was an integral part of creating a scenario in which teachers could become attuned to what was happening with students and respond accordingly. Particularly in situations where teachers were not immediately accessible and synchronous meetings were rare, students would sometimes turn to their learning coaches for additional assistance in their schoolwork. Again, teachers relied upon this sort of delegation, because of the distance between them and their students, but they also understood that it could only extend so far. Whitney (T11), the Lake School teacher whose daughter had also attended virtual school, explained,

I think one thing also is that you can't expect for a parent to know everything because you don't necessarily know their educational level or what they may need support in in order to support your student. I know some parents may be embarrassed to say, 'Miss P, I don't know how to teach that. I'm having trouble showing my students how to do that because I don't get it.' When you start to build those relationships with the parents, I've gotten e-mails to say, 'Miss P, I know they said this is the answer, I have no clue how they got there.' Then being able to support that parent in order for that parent to support that student. To me that is utterly important.

Asking for help was a moment of vulnerability for these parents, just as it might be for their children. Only when teachers and parents had an ongoing relationship of trust and care would some parents divulge areas of difficulty and accept teacher assistance.

Learning coaches in this formulation become intermediaries between teachers and students, and teachers take on a “train the trainers” model to outsource some of their work. This disassembling of tasks does not happen completely or without assistance— learning coaches must be trained in their roles and receive ongoing support and collaboration in their efforts. At the Lake School, school leaders envisioned a formal program called the “Parents University” in which they would build the capacity of learning coaches to better support their children, and eventually, further spread the skills and knowledge they developed to other parents in the school. This impetus was fueled by a concern that relying on parents’ labor without providing formal guidance and support could deepen inequality in learning outcomes among students. They worried that students in families with lower educational attainment would receive less instructional support and fare worse in the hybrid school environment as a result. Scholarship supports the idea that homework which children cannot complete without assistance acts as a “status reinforcing practice” that perpetuates and naturalizes social inequality (Calarco, Horn, and Chen 2020).

Virtual schools’ expansion of most schoolwork into homework thus could easily similarly extend the potential for deepening inequality. Lake School administrators also saw an opportunity in this model to truly incorporate families and break down the barriers between home and school, while still taking responsibility for providing necessary resources for families to thrive in this situation.

However, as far as I am aware, Parents University never came to fruition. Instead, at the Lake School as in other virtual school settings, teachers would train family members in ad-hoc and informal attempts to indirectly support student success. As suggested by Whitney above, doing this required laying substantial groundwork through “relational” or “connective” labor. Using parents effectively, then, continues to require intensive labor on the part of educators, who establish relationships, elicit information, provide topical or domain instruction, and respond to the particular needs of the families with whom they work. The offloading of responsibilities to volunteer family members *might* diminish the amount of labor performed by school staff, but it certainly does not erase it. Teachers take on new managerial tasks and, in some cases, expand their instructional efforts to include family members as well as students. The achievement of student success here relies on the network of people involved. As Hutchins (1995) describes in his classic work on the distributed cognition of navigators, virtual schools create environments in which the labor of teaching and learning is distributed across overlapping roles, creating opportunities for novices to observe and experts to provide correctives. In order for those opportunities to notice and intervene to occur, teachers have to put in the affective and relational labor to build caring relationships with parents so that they would be willing to make knowable to the educators what was happening in their homes and implement their suggested responses.

Talking About Students

But teachers and staff can also share this information with each other, relying on their peer relationships. Once again counter to the vision of virtual schooling as fundamentally isolated, teachers and other employees develop robust connections with one another that also bolsters their efforts at attunement. Often, this sharing of information came in the form of informal gossip and complaint, facilitated through rituals of connection between teachers. At the Lake School, teachers physically came together at the school’s downtown building 2-3 times a week. While there, they would swap stories, what Orr (1996) calls “war stories,” in the teacher’s lounge or in small groups at professional development events. Exchanges are based on knowledge of who is physically present and exposed to the information, and are informal, without documentation (notwithstanding my eavesdropping and frantic notetaking). Orr argues that war stories serve a dual function of providing information about work-related problems (assisting with “diagnosis” of issues in service of figuring out solutions) and establishing community status and connections. He writes, “They preserve and circulate hard-won information and are used to make claims of membership or seniority within the community. They also amuse, instruct, and celebrate the teller’s identity as technicians” (126). For Orr, what is fascinating about technicians is the amount of skill required to do their jobs, in contrast to their portrayal as merely carrying out pre-determined routines. He finds that their success relies upon both the expertise of individual technicians— their ability to recognize complex problems, which involves ongoing relational labor with clients as well as understanding the individual histories of each machine and its components— and also on the network of workers, who frequently collaborate informally in ways that anticipate and address concerns. He explains, “No technician works completely alone” (69) – the community of workers is foundational to their work performance, because together they have broader reach and understanding than any one technician can accomplish alone. Orr writes, “Just as sheep in a flock are individuals to their shepherd, so do specific machines appear in technician” discourse as individuals with histories and known propensities for perverse or benign behavior. Machines are also depicted as the subject of procedures as the technicians do various

things to them, trying procedures or changing procedures, all to fix the machines” (89). Teachers attempting attunement with their students keep a similar catalogue of their particularities and a running assessment of what they have done, what has been done to them, and especially any problems. Most teachers would hesitate to say that students need to be fixed, but they certainly have a particular desired state for students and will work to achieve that with attention to areas in which a student seems to be going off the rails in regard to their goals. Just as they use familial relationships to fill out the picture of student qualities, teachers will also use their connections to one another to develop an accurate log of students “propensities,” the “procedures” that had been used on them, and the outcome of those actions.

Technicians can discuss machines that “they know to be troublesome” (71) without the machine’s dignity and autonomy being on the line, though their narratives may cast aspersions on the customers or machine producers, and even gently challenge one another’s professional practice. But when such conversations discuss children and their families, they take on a different register. Teachers’ conversations about students and their families can at times be demeaning and even cruel.

As an example, one day I walked into the front office of the Lake School and hovered next to a vase of roses on the front desk with a card for administrative assistance appreciation week. It was a professional development day, which meant no students were present. Several staff members were standing around sharing stories about difficult experiences with children and their families. They recount instances of being physically and verbally attacked. One describes responding to such a situation calmly, remembering, “I didn’t raise my voice, I just kept giving instructions like, [calmly] ‘Don’t touch me, please.’” Another staff member stares at her in horror and says, “I would have lost my certification if I had to do that!” Their anecdotes are peppered with harsh commentary about students and their families, including disparaging remarks on their appearance, mocking imitations of their mannerisms, and frank disapproval of their choices. One girl is called “a chunky monkey.” A staff member recalls telling a mother that her son posed a danger to himself and “needed to be in a special school” and encouraging her to “call the authorities.” In a somewhat dismissive tone, she adds that this mother was afraid that her son would be targeted for sexual assaulted if he went to a “real school” because of his disabilities.

This kind of discourse shapes how teachers and staff perceive and respond to the students and families under discussion and others like them. One person’s negative reaction or off the cuff remark can become embedded in the organizational understanding of who this child is and what her story entails. Dramatizing these encounters for an audience solidifies a particular interpretation, which becomes contagious. For instance, amidst the above discussion, a staff member claimed one mother was either exaggerating her daughter’s health concerns or deliberately making her child ill in some way, mentioning that she had alerted a social worker about the situation. If a teacher who was part of that conversation might previously have received a call explaining a child was in the hospital with empathy and concern, going forward from such a conversation, they might become skeptical, suspicious, antagonistic. Stereotyping of students was frequently reified through these kinds of conversations, as teachers found validation for their frustration by turning against those they saw as difficult kids. By bonding over shared experiences and frustrations, teachers were able to displace responsibility onto the family and child, exonerating themselves.

And yet, this pernicious cycle is both instructive of the broader way schools function and can have positive and supportive effects with alternative lenses of understanding. That is, the social discussion of a student influences the way teachers perceive and react to students and interpret their performance, altering their repertoire of responses. This in-person sharing serves multiple functions – letting off steam and building empathetic resources while also trading techniques for addressing problems and working together to determine necessary courses of action. Embedded in these offensive portrayals was information that the teachers and staff might be able to use that could help them provide better care to students and their families both in the specific cases (should the children still be enrolled) and in others like them. In this case, despite clowning around and criticizing students and their families, the staff members do manage to communicate to their peers several techniques for managing challenging situations and an expected standard for employee behavior: reporting concerns about child abuse and safety threats to authorities, remaining stoic and refusing to engage in the face of hostility, and both encouraging parents to seek out alternative options for their children when things were going poorly and recognizing that they might have good reasons to persist despite this recommendation. By emphasizing the challenges in these scenarios, the staff members position themselves as experts and competent teachers. These retellings justified other staff's frustrations with students, giving voice to their feelings of anger, helplessness, and disgust. While these educators might benefit from deeper discussions about how to constructively manage conflict and build empathy for the families they work with, the comedic delivery in this situation might well have been more effective at memorably communicating these points than a respectful PowerPoint would have been.

This kind of informal conversation among teachers is common at schools with an in-person component, where physical proximity and shared routines can provide easy opportunities for discussion. When teachers are working remotely, and not necessarily aware of which students they share with peers, as is often the case in virtual schools, it can be more challenging to find venues to support communication about students. While many teachers developed their own methods for meeting these needs (some of which, as I will discuss, did not meet the approval of school administrators), some schools attempt to formalize the sharing of knowledge about students so that teachers are able to be more attuned to their charges. At Eagle Academy, teachers enter information about students into a shared database, available for access at the point of contact. Teachers diligently enter in their updates after each encounter and can look over what their colleagues have said before they begin their own interactions. If their conversations are documented, teachers can share the entire record of the conversation, leaving the reader to their own interpretation. Yet the school also supplemented formal documentation with the explicit practice of having staff hand-off the information they know about students verbally. Stephanie (E12), who worked in student services, remembered that during her first week at Eagle Academy, the person who had previously held her job also went over the roster of students she would be working with, saying things like, “these are the facts that I know about these students. This student is really great. I just congratulate them every so often. This student really struggles, and they don’t enjoy math. This is what they may need.” The student information system was consistently supplemented with regular meetings between teachers. In addition, teachers and staff actively sought out information about students from one another. Stephanie explained,

I’ll get chats from teachers saying, ‘Hey, have you heard from the student? They haven’t

logged into my class.’ The teachers can only see their students and their grades. I am lucky because I get to see the kids in every single grade and at every single class, and so I can go in and say, “Oh, yeah, that student is just avoiding your class you’re doing.

Both formal systems of documentation and informal conversations facilitated by easy access to peers support Eagle Academy instructors in understanding their students. The important element here is the comfort teachers have in reaching out to each other. Just as they strengthen their bonds with parents in order to access information about students and collaborate on their learning experience, teachers also value a shared community that allows them to approach concerns with the knowledge of the group.

Teachers thus draw on a range of informational resources in their interactions with students – putting platform data in context with socially produced understanding arising out of their relationships with students, families, and one another. Platform data works as tool and a probe, but alone is far from enough to cross the divide opened by virtual school opacity. Instead, their relationships form a bridge and color in the wider map on which they act.

Trace and Performance Data

In addition to the information about students that they gleaned through in-depth relationships and direct contact, teachers also made use of the data generated on students by digital platforms. Both advocates and critics of education technology have argued that the ability to passively collect massive amounts of data on students has the potential to transform teaching practices, for better or worse. Both largely associate this shift with a reduction in labor on the part of teachers and/or a greater separation between teachers and students. But teachers’ use of data in virtual schools sometimes showed the opposite. Using behavioral and performance data often brought students and teachers closer, tightening the webs of social relations between them and others involved in their school experiences.

Proponents of big data in education argue that automated technologies can surpass human capacities of attunement, identifying signals too subtle to be recognized based solely on individual observation, and responding with targeted and tested interventions. While good teachers may practice attunement in the classroom, they suggest, their ability to perceive and monitor students is limited by either their innate biological architecture or the institution circumstances in which they work, leading to pedagogical responses that are largely standardized rather than personalized. These claims are part of a broader movement across sectors to collect massive amounts of data and use machine learning techniques to identify patterns and even automate responses. The push to automate decision-making across sectors using machine learning reliant on massive data collection, including in public services, can arise from the desire to cut costs and/or from the belief that automated processes can bypass human biases (Burrell and Fourcade 2021). In the most extreme version of these fantasies, teachers are replaced entirely by big data technologies that facilitate automated instruction at scale. More balanced accounts argue that the delegation of these practices to automated technologies will allow teachers, often stretched thin by demands, to better allocate their limited time and energy.

Critics of using big data in educational settings express concern about student privacy, teacher

autonomy, and the potential for automated systems to perpetuate bias. Zeide (2017) and Roberts-Mahoney et al. (2016) both argue that the use of data-driven decision-making in classrooms reassigns responsibility for key pedagogical choices away from classroom educators, giving corporate interests undue influence.

Many teachers used behavioral and performance data as an alternative means to perceive and understand students in the absence of physical proximity and consistent visibility. Even data they would have access to in a brick-and-mortar classroom took on additional importance and weight when they lacked other cues, particularly the ability to see students and monitor their reactions. Teachers had to transform their practices of noticing, attuning themselves to fluctuations in numbers rather than in qualities like students' physical demeanor. Natalie (E10) explained that this process required active effort to establish, reflecting, "I think becoming really data-focused was a struggle for me at first because that's not something I'm naturally inclined to be focused on." She had to train herself to perceive meaning in the data. Emma (T17) found that adjusting to a lack of visibility revealed to her a set of assumptions she had been making in deciding how she would act towards her students. She realized that in the brick-and-mortar classroom, she had made determinations about when to offer additional support to students based on her assessment of whether they were living in poverty, based primarily on their appearance. Her intentions were to meet the needs of those who were struggling most, assuming that they had less support outside of the classroom. But once she began working online, she questioned that approach, reflecting, "maybe I did judge a little more based on the visual than I thought that I did. I didn't think that I did until I started interacting without the visual." The opacity of students became a resource in aligning her practice with the values she had been trained to believe in. She said of her current teaching situation, "every kid is a blank slate when they come in with just a name. It became strictly data driven, which is what they say instruction is supposed to be. That's the only thing I had." Emma viewed this transition as a way to more appropriately interpret and interact with students.

What kinds of data did teachers have in the context of their classrooms? When teachers spoke about using data, they were often referring to academic performance, whether grades or standardized test scores. This data is also accessible in a classroom absent digital technologies, however, it might be more time-intensive to produce. Virtual schools also built a number of minor assessments into the curricular modules students were sometimes required to complete, such as quizzes, producing more data on their achievement than in a traditional classroom. Since teachers did not have to manually grade these multiple-choice assessments, it was easier for some to quickly review students' overall performance than in a traditional classroom environment. Teachers first used this data in aggregate to understand the broad success of their instructional efforts and identify areas for adaptation. Kristin (G8) said that at Eagle Academy, teachers "could adjust the entire class if the entire class was struggling with a concept, like real-time data. If everybody got 60 percent on a quiz instead of the normal 70 to 80, then they could look at it and go, okay, well, what are we missing, what do we need more discussion on, those types of things." Still, this remained a far cry from the imaginary of automated systems. Teachers made their own determinations about what concepts students were generally struggling with based on their test results and chose how they wanted to respond. While not unique to the virtual classroom, the limited information teachers had to go on made them more closely evaluate the trends they noticed.

In addition to performance data, virtual schools collected fine grained data on student's interactions with their online platform, known as "behavioral trace data." Almost universally, school platforms tracked when students logged in and how much time they spent "active" within the system, which would usually entail students progressing through a curricular module. Many modules broke up content into sections students had to advance through, included videos they could choose to play. Data provided by the platforms generally boiled down to total time online and percentage of content completed, with some adding additional metrics for levels of interaction. Other data was captured, but not made available to individual instructors or used for pedagogical purposes, including the IP address from which a student accessed the school materials, information about their device, and their communications within the platform. At the Lake School, IT staff discussed how to handle students who repeatedly logged in from overseas IP addresses, calling their city residence into question. When students used computers provided to them by the school, any action was generally documented, though not necessarily monitored unless there was a problem. For example, at the Lake School, after being alerted by a parent to troubling messages between students, staff looked into the communication between students for evidence of potential cyberbullying. School computers were also equipped with automated surveillance systems that would alert staff when students accessed pornographic material or other content determined as inappropriate and off-limits.

Platform data, in combination with academic performance, was largely viewed as a prompt for more investigation and collaboration, rather than as a transparent fact in itself that would set off a pre-determined response. Natalie (E10) explained of her access to student data:

Our student information system tracks how many minutes they spend in each class. It also tracks their clicks. If I really want to dive into it, I can see every single thing they clicked on. I can see how long they spent on it.

For Natalie, this data stepped into the gap of not seeing students regularly. She had to learn to "focus" on the data the way she previously would have on students' physical presence, in order to "keep track of them." Once she got the hang of it, the platform data became a critical tool for her to boost awareness of students' status. At Eagle Academy, Natalie had an automated "red flag list" that would alert her to students who fell below a certain threshold of engagement. But she also relied on the data to identify patterns that concerned her that were more nuanced than simply not logging on. For example, she said, she recently noticed a student who

was spending plenty of time, but their minutes in comparison to their grades, there was a big discrepancy. When we looked a little bit further into that, it looked like they would log in, they would click on a bunch of stuff, but they wouldn't actually ever open any assignments. They would just be clicking all around and be spending an hour or two hours in a class every day and then not turning anything in.

The built-in assumption here is that if a student is actively working at a normative rate, their grades should be at a relatively high level. If not, there is a problem. Noticing this "discrepancy"—the difference between what she expects to see and what is actually happening—prompts Natalie to explore further. Although an algorithmic warning system could likely have

been programmed with more variables to account for a case such as this one, sophisticated machine learning was largely absent from the virtual schools my participants engaged with. Even armed with this information, however, the cause and context of the students' behavior here remains opaque. Natalie reached out to the student and told them about the pattern she had noticed. The student explained that "they were having a really hard time navigating the course," that is, they were confused about the platform interface. Natalie closed out her discussion of this instance by saying, "I think tech issues are one of the things we get alerted about." But the system in no way indicated to her that this was specifically a tech issue – instead, her own surveillance of the behavioral data prompted her to seek out more information in the form of a direct conversation. When Natalie talks to students in these circumstances, she begins by sharing with them what she's seeing in the data, as a probe to elicit from them a better understanding of what is happening. In this process, Natalie engages in *noticing* and *responding* to students in a way that invites them to collaborate in making meaning out of the data– she exhibits her attunement to their activity. Although she initially worried that students would be upset at this observation and take it as an intrusion on their privacy, she found that her students took the surveillance in stride. Some would push back on the accuracy of the platform's measurements, which Natalie interpreted as an emotionally defensive measure. She explained,

I've had a couple students try to say, "Oh, that's wrong. That's not right. I do my work every day," but ... I've noticed that just being really honest with them and saying, "No. Our system tracks this. There's no way for it to be wrong. I know that's hard." ... in situations where they argue it, I'm like, "I know that could be embarrassing, but I'm just here to help you." I guess that's the advantage of being a counselor and not a teacher is that I don't have to discipline them, so I just am really up front about, "I'm not mad. I'm not getting you in trouble. I just want to know what's going on. I would like to help you." Hardly ever do I have any pushback or awkwardness. I think sometimes they're surprised that we know, but I think often it opens a conversation that they're too worried to initiate. It gives us a logistical reason to be talking to them, which then sometimes transitions into an emotional conversation or a conversation that's deeper.

Natalie takes the data produced by the platform as ground truth. While students might object to the conflation of the data output and their process– after all, "I do my work every day" might *not* inherently translate to "I log my work in the system in a way that it recognizes every day"– Natalie's use of the data as a way to express interest in her students' experiences and reassure them that she wants to provide support is effective at facilitating collaborative problem-solving and moving towards greater emotional intimacy. Although she asserts that "there's no way for it to be wrong," Natalie still managed to give students agency in positioning their activity by saying "I just want to know what's going on"– something the system cannot tell her. At least in her telling, the behavioral patterns she witnessed didn't immediately equate to a particular meaning. The assumption is that something is awry, but that it is something that can be addressed by working together, rather than an inherent flaw in the student. Data here becomes a tool in relationship building and attunement. Contrary to the premise of opacity and autonomy, Natalie reminds students that they are being watched, but in doing so, she invites them to be seen and connect.

Part of the reason teachers and other staff in the virtual classroom were able to situate the

interpretation of performance and behavioral trace data as a collaborative effort at problem-solving was because of the opacity of students' surrounding circumstances and behaviors. A student struggling with understanding course content and avoiding assignments from shame, a student struggling with the technical interface of the platform and missing assignments from confusion, and a student wittily trying to game the system and pass undetected while ignoring their assignments and watching TV might all have the same pattern of data described by Natalie—someone logged in and clicking around a lot, but not completing assignments. Despite Natalie's firm claim that "there's no way for [the data] to be wrong," she also has limited resources to identify what that data means without the assistance of her students. In this way teachers in virtual schools may take a more humble posture than their peers who teach in person, because they are confronted constantly with what they do not know. Crooks (2019) argues that counter to administrative claims of omnipotent surveillance, students and teachers who are monitored in schools can have agency to "decouple their behavior and the digital traces that stood in for that behavior ... making a strategic show of compliance while exploiting the ambiguity of the representational relationship between digital data and behavior" (495). Emma (T17) found that some of the students in her school had begun to game the system in this way, explaining,

There are kids that learn how to work the system and open up a course to let the system log time, but they don't flip through the pages. It looks like they've been in there for an hour, but they've really not gone past the introduction page. They learn the loopholes.

While students whose data patterns catch the attention of staff as cause for concern cannot really qualify as successfully deploying this form of "interpretive resistance," teachers here turn this gap between the data and the student's experience into an opportunity to nurture connection and apply attunement.

Although many teachers centered the use of platform and performance data in their approach to students, accessing and exploring this data was not always made easy by the platform interface, complicating the premise that the existence of data would streamline or minimize teacher work. Many systems were patchworks of software that might not smoothly integrate. Shannon (T4) reflected on one of her biggest complaints about the Pelican School:

Right now, I have three different systems where I have to login to get student information. And everything is labeled differently in the Excels that you download from those. So, if I want to make a list, of, say, all of my students who have not worked within 7 days. And I want to put together a nice Excel spreadsheet that has all their information on it, so that I can easily do mail merges, or mass text messages – not take a million years doing each individual student, but have a list, and have it all in Excel, and put it through some programs to do some of those contacts quickly – it's going to take 3 or 4 hours before my Excel is ready. And the amount of data that could change in three or four hours is really big.

Despite her efforts to delegate elements of this process to automated systems, Shannon had to do a great amount of legwork just to get the data into a form that was useful to her. Systems that were meant to make things easier for teachers could just as often introduce new dependencies that interfered with teachers' ability to access student information. At the Lake School, problems

with a popular student information system that was used to store grades caused some teachers to manually calculate and share grades with students. Daniel (E7), who worked on IT for the Lake School, explained to me the problem that “no one product will do everything we need,” but each company refused to integrate with other products to avoid undercutting their own business model. Daniel dreamed of overhauling the entire system and running it “in house,” but doing so would require additional time, staff, and money. Like Natalie, Emma (T17) had a more streamlined system, where data was “just a click or two away,” but accessing this information still involved an active process of pulling reports and filtering based on variables of interest. She referred to this as a “digging process”— sorting through the data and knowing what to look for. Actually making use of data continued to be a source of heavy labor for teachers. The tools at their disposal were relatively crude. This stands in stark contrast to popular and scholarly descriptions from both advocates and critics of data-driven education. The teachers I encountered had to manually comb through data to identify patterns and make sense of them, as well as determining the form of their response.

While Natalie and Emma described a loose set of rules for how they would react in response to particular data patterns, teachers’ reactions to their students were also shaped by what they knew about students beyond the data. Students may have entered the classroom appearing as “a blank slate,” but they didn’t stay that way. As teachers built relationships with their students and students’ families, they accumulated information that they drew upon in making decisions about how to respond to student behaviors and performance. Their familiarity with students shaped the way they interpreted data about students. Their general planned responses were just one resource among many determining their reaction (Suchman 2006).

Teachers would often interpret data through their existing knowledge of their students, gleaned from the relationships they had built with them, such that it often simply validated what they already knew. At the Lake School, I watched as groups of teachers in a professional development session combed through data from state testing in preparation for what the administrators called “Data talks”— conversations with students and their parents about a student’s performance. A teacher walked me through the “data tracker” database, pointing to the most recent set of scores they are reviewing. “Were you surprised by anything?” I asked, regarding the student whose profile she was viewing. “No, because he’s so low— with another teacher, they might have aha moments,” she replied. While a number of teachers referenced the possibility of this kind of aggregated and individual data being useful, moments when it told them something they did not already know eluded them and me. These teachers were familiar with their students’ performance— the data simply reflected what they already knew. The teacher’s comments suggested that because of the extremity of this student’s scores, and her prior experience with him, she was already well aware of the situation. It might change something with a teacher who didn’t know the child but had little value in communicating new information to her.

Before her class, Megan (T18) scrolled through a dashboard listing how much time students had spent on the platform that week and how many activities they had completed. She walked me through, telling me that she was looking at who to be worried about based on how much time they’d spent on the platform. “I look for one’s who’ve done nothing,” she explained, laughing, suggesting a clear “data-driven” approach to her interactions with students and assessment of their performance. A student who completed 17 minutes of math early in the morning didn’t

qualify, because at least she's done something. Yet as she went down the list, she paused again and again to give her interpretation of the data for each case, often explaining why she was not planning on contacting a student despite the fact that they hadn't been active that week. "I'm probably not going to reach out," she said of one student who hadn't logged in, because she had received an email from the student's mother that her little brother had been shot on their front doorstep. Another student was not working because she was in France, where she had been invited to attend the Cannes Film Festival. Megan pointed the eraser tip of her pencil at the screen of one student's time, noting they will "make allowances" for those who are in religious school, expecting them to only do 2-3 hours of work on weekdays rather than the usual 5, with "more on weekends." The data here rarely provided her with a new understanding of the student. She admitted, "most [of those who are behind] are people I already know." One surprises her, but then she backtracks, providing seemingly conflicting rationale that indicate just how little the time tracking reveals: "going to let that slide because he's fine, he's autistic, and I know mom is doing most of the work anyways." As Tolmie et al. (2016) argue of Internet of Things data, "fine grain understandings of interaction cannot be 'read off' the data alone." Megan's assessment of these students depends not on the data alone, but on understanding this data in relation to her knowledge about their lives. The platform data does little for Megan on its own. She uses it as a tool to check her own assumptions, but her actions are not dictated by the quantitative metrics. As Orr (1996) once wrote of machine technicians, "Competent practice includes discarding diagnostic information from the machine when it tells nothing useful, and hence part of being a competent practitioner is being able to distinguish those times from the others" (73). Megan's professional judgement allows her to make competent determinations about how to use the information the machine gives her about her students—professional judgement in part developed through pedagogical training and longstanding expertise about how to interact with students, but also buffered by her personal understanding of these specific students' lives and reactions. Megan may use her "professional vision," to use anthropologist Charles Goodwin's (1994) term, to assess the meanings of data – what kinds of behaviors the numbers represent – but the same numbers for different children will register differently for her, because of what she knows about them.

Here, these lenses for data interpretation are developed by sustained engagement with students and through communication from their parents and other teachers, allowing them access to information about students, which they can use to be responsive to their needs. This is a cycle—by connecting emotionally, expressing care, and establishing trust, teachers elicit data about students, which they use to express more care by recognizing students as unique individuals.

In person events

One straight-forward way of recuperating the visibility of students and the resources of connection available at in-person schools is to combine in-person activities with online efforts. Schools would leverage in-person meetings to various degrees, both as a means to strengthen relationships and as a tactic to ensure direct communication and exert social pressure. Of course, the Lake School, where students were required to physically come into the building once a week, had of the schools I looked at the strongest policy on this. But other schools had mandatory in-person orientation events or even immersive, multi-day activities built into their structures. This required maintaining or renting a physical location that could host such activities. Schools that

lacked physical space or that had limited central offices had to come up with alternatives.

Separate from school-based events aimed to a certain extent at establishing responsibilities and accountability, “field trips” were a popular option to connect those families who desired in-person interaction and to create a sense of community. These ranged from purely social, like amusement parks, to generically educational, like museums and zoos. However, these were often sparsely attended, as they required families to provide their own transportation and, usually, chaperones, and might be far from students’ houses and carry additional costs. Such trips were often for all ages in order to attract enough families to make the activity worthwhile, which could make them less appealing for students who wanted to connect primarily with other kids their own age and made it hard to pedagogically structure academic focus.

At Eagle Academy, staff would conduct “home visits” as an escalation when they were unable to reach a student or their family via phone or email. Since Eagle students came from all across the state, this was a serious investment of resources for Eagle. The staff took seriously the home visit as the last resort before reporting a child as truant and expelling them from the school. Stephanie recalled a recent time when she and the school counselor had driven 90 minutes from the school to “the middle of nowhere” to look into the situation of a family who had been unresponsive:

We showed up, and no one answered the door. That’s pretty common, and so we called the last number that was the work phone number. It ended up being the post office across the street, and the mom was the only employee there... she answered, and she wasn’t mad at all that we were there. She said, ‘Yeah, I’ll be able to come over for my lunch hour, and I’ll meet you guys then. You can come in,’ and so it was very interesting because it gives you a look into what might be going on outside of school and what the environment looks like, and how people interact... there wasn’t a lot of room to stand in the house, and so we stood there. The kid was very resentful, did not want to come out, did not want to talk to us, and so eventually she did, and we asked, ‘Do you want to graduate?’ She goes, ‘Eh,’ and so it was very short answers. Mom was very passive-aggressive to her daughter, just saying, ‘She drags her feet. She doesn’t want to do this. I tell her she has to get a high school diploma because you can’t have any job without that these days. I just don’t know what to do and this and that. She helps her older sister do her college work, but she doesn’t do her own high school work.’

By conducting a home visit, Stephanie and her colleague were able to get a much clearer sense of the situation than they had been able to achieve at a distance. Because of their distributed structure, the student’s home environment became to some extent accessible to them, within their purview to approach given it was the location in which her schooling took place. They learned about the student’s emotional state, potential logistical and relational challenges to her success, including her mother’s frequent absences due to work, unreliable internet in their rural community, and the animosity between mother and daughter. In my interpretation, they also became aware of potential resources – the mother’s close physical location to her daughter during the school day, the older sister who might be able to influence her sibling. Yet, despite this plethora of information, Stephanie left feeling helpless, arguing, “there’s really limited things that we can do.” The capacity of teachers and staff to practice attunement here was

constrained by perceptions of their individual and institutional responsibilities. They could exert the social pressure of appearing in person once, indicating their interest and care in the student's welfare, but were not prepared to work with the student's family to create an ongoing collaborative approach to her education. In Stephanie's telling, the student's mother welcomed the school employees, and seemed eager to share her frustrations and concerns – similar to teachers at the Lake School. This suggests that meeting in person provided an opportunity to strengthen the relationship between staff and family, or a way to connect with the student directly, perhaps bypassing the baggage of her mother's commentary. But ultimately, the school approached the situation as the family's responsibility. Teachers and employees would collaborate with students and families to a point, but were unable, or unwilling, to make a more in-depth effort at achieving student success. Instead, students who did not engage, even after a home visit, were considered inappropriate for virtual school, despite the fact that virtual school foregrounded its inclusion of family and extension into the domestic sphere. The student was marked truant. When Stephanie and I spoke, she said the mother was trying to find the time to take half a day off work in order to come to the office in person and formally withdraw her daughter. After that, they would no longer be Eagle Academy's problem.

Privacy Benefits

Despite many teachers' emphasis on visibility as central to practicing attunement, participants emphasized a number of cases where allowing both teachers and students the choice to reveal information about themselves—rather than imposing disclosure on them—strengthened their affective bonds. Where traditional schools often enforced a strict set of allowed behaviors, for many participants in virtual schooling, part of the point was to be able to engage in a broader array of activities, to no longer have their actions monitored and managed at such a micro scale. While the default for virtual schools was to provide this protection through distance and opacity, many participants noted that these very limitations could provide opportunities for participants to divulge other pieces of themselves and become closer in the process.

In this way, virtual schools in some ways allowed for greater privacy for participants, using Irwin Altman's definition of "selective control of access to the self" (Palen and Dourish 2003, 130). Students in particular (but also teachers) could make their own assessments about what aspects of self they wanted to foreground, preserving the autonomy they prized. Rather than being granted a certain level of visibility and knowledge by default, both teachers and students had to earn it.

Evading Discrimination and Generic Inclusion

While instructors tended to characterize seeing students as providing some kind of ground truth about their experiences, the institutional structure in which teachers are embedded has structured their seeing in particular ways. In his famous essay "Professional Vision," Goodwin (1994) emphasizes the ways people are *trained* to see based on the norms and practices of their professions, such that they make judgements that are anything but straightforward. Goodwin offers the example of the trial regarding the police brutality faced by Rodney King, where a recording of the assault on King was used by both the defense and the prosecution to make their arguments. Scholars have found that students exhibiting the same behaviors will be interpreted

differently by educators, including based on those educators' pre-existing beliefs about students as influenced by race, class, gender, and other social categories (Calarco 2018; Willis 1981; Morris 2015). While teachers want to practice attunement in their work, they are also tasked with disciplinary goals. They are generally expected to maintain a particular form of order in their classroom and punish behavior that falls outside of acceptable norms in ways they perceive as threatening to the learning experience. Behavioral expectations are fundamentally racialized, gendered, and classed. The kind of seeing teachers do in the classroom is filtered through their professional expectations and their ways of seeing, of noticing, are key to the combined elements of teaching.

Students and their families sometimes chose virtual schools in order to short circuit the set of assumptions teachers placed upon them when they were able to see them. Avoiding teachers' schemas for determining who was on and off task, who was acting appropriately and who was disruptive, who was engaged and who was not, was part of the promise of virtual schooling. Some teachers noticed how the absence of certain cues about their students shifted the way they interpreted student behaviors. Emma (T17) said, "You think as a teacher, 'Yeah, I treat everybody fairly, and I don't have any preconceived notions,' but then when you're on a virtual environment, you really do see how much seeing a kid does play a part in just those initial thoughts about that kid." Figueiredo-Brown (2013) points out that "Teachers may try each new school year to wipe their slates clean of preconceived ideas about their students" but that when challenges arise, "their students can quickly become identified as the problem" (151). The hope for some students and teachers is that in lacking information they would usually use to categorize students, teachers might withhold judgement about a student's abilities and refrain from jumping to conclusions about their intellect, work ethic, or general morality.

Without constant scrutiny, students could live and learn without worrying about how their teachers or peers were perceiving their actions. That might mean having an adult constantly sitting beside the student, watching their every move, encouraging and responsive. It might mean letting students get up and walk around, fidget, or sit under a desk. It might mean talking, even talking loudly. In *Progressive Dystopia*, Savannah Shange (2019) quotes a Black teacher describing the anti-Black racism Black students are subjected to when non-Black teachers see them in the hallway: "I think teachers do it subconsciously, thinking, 'What are they up to? Are they up to no good? Why are they being loud?'" (83). In order to offer that freedom to students without actually engaging with the friction those differences might provoke, virtual schools minimized the conduits of student presentation. Being off camera becomes a way to *potentially* be in the hallway and the classroom at the same time—to avoid the confrontation that comes with being seen through the heavy institutional biases towards certain student behaviors. It's notable that when staff at the Lake School mocked some of their students, it was largely based on in-person interactions and bodily assessments and relied upon physical proximity and strain. In Shange's example, while the teachers' assumptions are prompted by seeing their students in a particular location, they also preexist the encounter. The teachers are already primed to have negative beliefs about their Black students, no matter what they are doing in the hallway. In a virtual school unable to see these students, those teachers would be likely to simply continue to assume the worst. But they might be at least temporarily prevented from imposing those assumptions onto their students, lacking a tangible representation of their suspicions.

Beginning from a baseline of the “blank slate” allows teachers, students, and parents to manage disclosure about themselves, keeping intact the autonomy many have turned to virtual schooling to provide. Several participants articulated the belief that the virtual environment diminished discrimination because it reduced opportunities to classify students based on the visible markings of identity categories. They argued that students could largely avoid or minimize the possibility of being stereotyped if they could avoid being seen. My childhood friend, Ashley (G5), whose sister was at the Lake School, told me,

There’s a lot of Muslim students in our school. They wear the hijab, and there’s no problems. They meet you online first, so just a name. You get to the building, and see, oh hey. It’s just that person you’ve seen online. It’s not, oh, she looks different; oh, she talks differently; or oh, she – there’s none of that issue. The kids get along great... Again, like I said, it’s more inclusiveness. You know each person as a name first. You don’t judge them off that. You just judge them off a few sentences that you’re writing in class, or you get put up in these online groups to do projects. You know everybody based off their work. That’s how everybody wants to be measured, right, off their work and not what they look like or what religion they are. That’s the best way to meet people, I think.

Ashley vividly remembered feeling uncomfortably pigeonholed by other students based on her race growing up. As a Black girl, she felt she did not meet the expectations of other Black students in terms of her interests or demeanor and was marginalized for it. At Lake, she believed, there were less stringent social norms based on social positioning like race, class, gender, and religion because students were introduced with only their names and began to connect through the things they chose to say in class. Michelle (E9), a Black parent, employee, and former Board member at the Lake School, expressed similar sentiments that online opacity protected students from preconceptions: “Virtual learning allows for you not to have the same exposure to artificial things – online it doesn’t matter. It allows you to focus on ideas, different experiences. Race and gender aren’t at the forefront of the discussion, it allows for an exploration of diversity.”

While Ashley and Michelle emphasized the way that limited visibility could allow for a focus on other salient aspects of students’ identities, Lily (T8) a white teacher at Bluebird West, argued that opacity encouraged greater reflection among teachers and students due to the possibility of diversity in the classroom. Emphasizing that “there’d be no way to know” students’ demographic categories “because students really don’t advertise in any way who their – like, race, gender, religion, all that kind of stuff,”¹⁴ she argued that awareness of her own ignorance of who was in the space served as a reminder and prompt to monitor her behavior for unintentional bias.

When I look at students, I’m always thinking that they could be from anywhere – just trying to be universally respectful to students, just always keeping in mind I don’t know if this student is Muslim, Christian, Jewish, Atheist– I have no idea! ... you have to constantly be open minded and respectful ... to respect that they could be anybody.

Building from not knowing overmuch about students to begin with, participants promoted a form of *generic inclusion*, behaving in a way that would be considered respectful and inoffensive

14. Lily noted that teachers could look up records of student demographic information, including racial identification, but that doing so would be labor intensive.

regardless of student background or demographics. As William (G9) framed it, chuckling slightly, schools seeking to enroll students from a wide range of backgrounds and demographics, including those who might be hostile to the educational system, felt “that they have to ... try and make it as flexible and ... nondescript as possible.” Of course, interacting virtually did not obscure all identity markings. While Emma (T17) had claimed “every kid is a blank slate when they come in with just a name,” and Ashley similarly noted that students met with “just a name,” names are frequently embedded with layers of social meaning. Based on a student’s name, teachers and peers might well make assumptions about their gender and race, and perhaps even their religion and class.

There is more than a shadow here of “colorblind” or “color evasive” (Annamma, Jackson, and Morrison 2017) ideology. As Brayboy, Castagno, and Maughan (2007) argue, downplaying race in educational outcomes “plays into the “the idea that individual values, motivations, and talents determine individual outcomes” (160) at the expense of recognizing that “Large-scale inequalities are rooted in more pervasive, systemic, and structural issues” (ibid). This approach seems to stand in opposition to culturally responsive practices, which involve working from awareness of students’ cultural backgrounds and the social contexts in which they operate, and actively engaging those elements of their identity in support of countering social inequality (Figueiredo-Brown 2013). Many of these participants did seem to believe that race, gender, religion and other identity categories need not be relevant to one’s educational experience, and acknowledgement of them could in fact be a hindrance to understanding and valuing individual students. However, an alternative reading of these comments would be that by allowing participants to choose when and whether they disclosed various elements of their identities, they could protect themselves from harmful encounters, revealing pieces of themselves only when their interlocutor had shown themselves to be accepting or safe. Once again, the difference between possibility and actuality lies in the opportunity to build trusting relationships.

Reducing Disclosure

As established, visibility can be important for teachers to understand what is happening for students and to be able to develop effective responses. But in-person communication in brick-and-mortar schools can be an all or nothing proposition. The very richness of face-to-face interactions means that participants must be willing to reveal a great deal about themselves in order to engage. The limitations afforded by text, audio, and asynchronous communication, can allow people to communicate without sharing more than they want to. The multiple modalities and time-shifting opportunities of online learning empower some people who are uncomfortable with dominant communication methods and contexts in traditional schooling and make space for coping mechanisms not possible in other situations. Natalie (E10) explained that being able to chat with students in text was much less intimidating to some than having to come to an office and talk on the spot. This can be especially true for students, teachers, or parents who are shy or anxious, who experience sensory overload, or whose life circumstances mean that they are balancing care-taking or professional responsibilities (whether parenting, working to support themselves and their families, or working in a specialized industry such as acting or athletics). As Jeff (T9) explained,

I try not to force the students to share if they don’t want to share, because – a lot of the

students in this program have anxiety issues. And one of the reasons why maybe they're not at a brick-and-mortar is because they have social anxieties and just are really nervous around other people, and so this is kind of a way for them to get their education, without subjecting themselves to that nervousness.

These forms of interaction were beneficial not only for those with emotional and psychological reasons for desiring limited visibility, but also for those whose logistical circumstances presented barriers to immediate face-to-face communication. Jane (T6) explained, "I really like the idea of being able to reach students that might not be able to go to a traditional high school. I was able to see that in a lot of students that would reach out to me or that I would hold Skype sessions with. I think the benefit really made it worth it to me. I just realized face-to-face brick-and-mortar schools are not for everyone."

Of course, everyone falls into these categories at some point. The physical and emotional demands of the brick-and-mortar classroom are often intense, especially due to budget cuts and austerity measures that can leave teachers alone in a room with 20-40 students teaching back-to-back classes for hours on end. While virtual learning can come with its own stressors and challenges to boundary-setting, teachers make use of physical distance to productively set limits. During our online interview, Shannon (T4) had her camera turned off. At one point, she explained that in working with students, she sometimes felt relieved about the distance between them because it allowed her to not have to stifle her initial affective reactions, particularly when she became frustrated. "There was a lot of deep breathing in this session. It's really good that we're virtual, sometimes to work with these students, because – You probably see, I'm not a super video person here. I'll keep the video off ... and I can easily mute it." She laughed, and then demonstrated why she liked being able to easily mute her audio by sighing dramatically.

At the same time, limiting visibility allows for a sense of greater access to teachers. Natalie (E10) pointed out that students didn't have to knock on her door and check to see if she was busy, which might have prevented a student from asking for help. Instead, they could chat her as they needed, and she could screen their comments in order to prioritize her workflow. Because students were only aware of her actions when she responded to them, she could deal with their "emergent needs," iterating in the moment based on current conditions. She achieved greater access to students because of their narrowed view into her experience.

Reducing visibility could also mean reducing the amount of emotional labor teachers had to perform. Hochschild (2003) famously documented the harms associated with emotional labor, which requires workers to produce a particular emotional state as a core part of the service they provide, for the benefit of the organization. She argues that this activity can alienate workers from their feeling and thus from their selves, in a parallel to the Marxist analysis of manual labor alienating the worker from their body. But the unique affordances of the virtual environment allowed for decoupling of the immediate experience of emotional reaction and the presentation of emotion in the interactions between teachers and students or their parents. Ironically, the teacher's ability to sigh or roll their eyes while interacting with a student without their knowledge allowed them to have a more authentic relationship, because the teacher is no longer required to restrict their holistic self to the narrow categories deemed appropriate. Further, by narrowing teachers' perceptions of students who caused them distress, virtual schools allowed

teachers more breathing room to respond appropriately. Aaron (T22) at the Lake School explained that the distributed nature of interactions with students eased the necessity of constant emotional regulation. By not having to deal with what he called the “worst kids” all the time, that is, those with difficult behavioral problems, he was better able to preserve his energy.

Winifred Poster (2019) argues that call center firms prefer audio only communications because voice can, sometimes with the help of digital alteration, conceal certain elements of a worker’s identity that might complicate business interactions while retaining social value by emphasizing workers’ humanity and thus minimizing consumer backlash against automation. She points out that “Video, in contrast, would likely reveal too much information” (258). In particular, Poster notes that call centers want to “obscure automation and geography,” hiding the location of workers in the global south and the participation of bots in customer service interactions. Both teachers and families have other concerns. Video might reveal rule breaking— a teacher with a baby on their lap when they are meant to be on duty. It might disclose animosity or frustration. And visibility of children’s living conditions can open the door to scrutiny about their safety and wellbeing. As many have discovered during the pandemic boom in remote work, for both parties, lack of video allows casual attire and potential mobility and multitasking. Megan probably wouldn’t have been comfortable with students seeing her wearing yoga pants at school. Reduced visibility here had a number of benefits for teachers and students alike.

Circumstances of Disclosure

In addition to limiting *what* is seen, virtual schools also limit *who* can see. Here, participants have the ability to restrict who has access to an interaction to a narrow audience. Many interactions that would have taken place in front of a large group of students can instead be restricted to the student and the instructor, reducing the pressure of students to perform for their classmates or worry about how they are perceived by their peers. Marion (T13) explained,

I think in a face-to-face, it might be calling them out too much, do you know what I mean? If you’re like hey! – you just have to be much more discreet in the face-to-face. Certainly, I couldn’t pull a kid out of the classroom. You could talk quietly to them and that’s not really an issue, but in this case, it was just a little bit – I just felt like there was a little bit more sense of privacy, almost, with teaching online.

At a professional conference, Natalie (E10) shared a memory of being in high school when a classmate died by suicide. Her class was told, “anyone can get up and leave to go talk to a counselor.” But being seen to make that choice would be embarrassing, Natalie argued– it created a barrier to students reaching out. With virtual school, she said, students could simply contact a counselor any time they felt they needed one, away from prying eyes. In the virtual school system, direct channels of communication were established between teachers and individual students – one-to-one interactions were the norm, rather than the exception. Stephanie (E12) told me how much she valued that aspect of her school:

That’s one of the really nice things about being in the online setting is I can reach out directly to the student before I ever have to reach out to the parent because I want to hear from the student what might be happening. Then it really stays just between me and

them, and they don't feel like I'm out to get them in trouble and that it's really just I want to help you figure out what's going on, not you're in trouble.

The intimacy of these interactions could be frightening or overwhelming for some students, especially those who had negative experiences with teachers or who were wary of any direct attention. But in the one-to-one setting, teachers could work to address students' concerns and adapt to their needs. Natalie explained,

I even think that they see you more, and they get to know you more, because you're not in a class with 30 people. It's just you and the teacher, and they can look at you as an individual a little bit easier. I know that makes some people uncomfortable, and we work through it.

Within the virtual school setting, participants had greater agency about who they shared with. This allowed them to choose to reveal themselves within trusted contexts without fearing the repercussions of onlookers.

While participants could choose to limit their visibility in a virtual school environment, they could also choose to reveal things that would be challenging to share in a classroom, in part because of the greater privacy they could achieve. While it might have felt inappropriate for Whitney to talk about her divorce to her students en masse, speaking one on one with a parent going through that situation allowed her to share her experience and deepen her connection with that person. Within the context of the one-to-one relationship, participants could feel safe being vulnerable, enabling intimacy. Kate (T1) spoke about the authentic and profound relationships she had developed with the families of her former students in her early years with the school. They not only met in person but went out of their way to visit with one another after the students were no longer in Kate's classes. When she moved several states away, one family drove up to meet her. When she brought her family back to the state her school was in for vacation, another family whose two daughters had all been in Kate's classes drove from several hours away to meet at a local theme park, just, as Kate said, "to say hello to me." She reflected, "there's some very very special families. I feel like I've made some real friends." Allison (G2) and Kate became close while Allison's son was in Kate's class, and after he had moved on. Kate shared with Allison her own deliberations about whether to homeschool her children. When Allison's teen son was considering whether to stay in high-school or pursue his GED, both she and her son had long conversations with Kate about the decision. Allison, crestfallen at the possibility that her child might not stay in high school, described sobbing on the phone in fear that she was "the worst parent," while Kate reassured her that "every kid just goes their own path and they have to do what's right for them." These kinds of reciprocal connections went beyond gathering relevant information for a student's coursework. Teachers and parents were able to build especially close bonds when they felt they shared core values, like faith in Christianity or belief in the benefits of homeschooling.

These kind of deep connections between teachers and parents could be highly influential in terms of students' learning experiences. As described earlier, most virtual school models rely upon a working collaboration between teachers and parents. The closer teachers and parents were, the more likely teachers were to be able to get parents, and by extension students, to do what they

wanted. This is not to say that these relationships were manipulative or transactional, but to recognize how they could be beneficial to teacher's professional aims. And yet, despite this relational labor being core to facilitating attunement, these bonds – and the work they take to build and maintain – are largely invisible to the school system. Teachers might document calls with families and even summarize the content of conversations in the student information system. But the more sensitive or personal the content of a discussion, the more the interaction relied upon the sense of safety built in the relationship, the less likely teachers would be to formally record it. Making this information known to their superiors would undermine the conditions that made the disclosure possible. As Palen and Dourish (2003) note, "Actions around disclosure are balanced with how one wants to present oneself, or by knowledge of who might consume and re-use disclosed information" (131). Parents and students chose to disclose more information within the context of particular relationships with teachers. Sharing that information too broadly could thus be an act of betrayal that would foreclose further disclosures. There was thus no formal way for teachers to get direct "credit" for the key aspects of this work, to make it legible to those who manage and evaluate their labor.

Working for It

When teachers had to actively work to overcome initial barriers to connection, they learned to value what they may have previously taken for granted. Marion (T13) reminisced that when she first started at a new virtual school a decade ago, "The thing that surprised me the most was the relationships you built with the families and the students. Part of that was because it was online, and you really needed to be proactive in reaching out to communicate." Without a classroom environment where communication happened by default, there had to be conscious efforts to create and preserve relationships.

Teachers' active investments in establishing relationships with students reaped additional rewards from students who felt recognized and cared for, particularly when they had previously felt ignored or overlooked. Kristin (G8) argued that for her son Zachary, moving to Eagle Academy from a district in-person school meant that feeling that teachers were open to connection because they were allowed and even encouraged to spend their time communicating with students. She drew the contrast between his old school and Eagle Academy:

I just didn't feel like Zachary's teachers [in brick-and-mortar] were accessible, and I didn't feel that they had the time to give to him. I felt like they didn't really see Zachary for who he was. They just saw a problem kid, someone that just needed a lot of attention, and they didn't really have the time to see that Zachary just wants to please and just wants to try hard but just doesn't — if he doesn't feel accepted, he's not going to give you his best self. I can't say that it was bad. It was never disrespectful, but I can say that I just didn't feel like they — not that they didn't care, but they just didn't have the time to devote to Zachary.

I felt like the teachers at Eagle Academy definitely had the time. They knew this kid, and what we loved about it is, they would chat with him online too. They'd be like, "Hey, Zachary! How's your day? How are you doing?" Zachary built a relationship with them, and they still have relationships. Ten years later, Zachary will come back to these

reunions, and there's hugs. [laughs] They're on Facebook, these teachers now and Zachary, and so they watch as his life progresses. Then they comment, "Zachary's doing so great! Look at him!" It's just a great relationship.

By actively eliciting Zachary's engagement and foregrounding interest in him as a person, Eagle Academy teachers accomplished what his in-person teachers could not. Participants emphasized that *because* of the barriers to connection in virtual schools, there was a more concerted effort made to center interactions that might organically unfold in a traditional school context. Amanda (T23) reflected, "I feel like I knew my students better in the virtual setting than I did in a brick-and-mortar setting, which is odd, I think, it's not at all what I expected. But you have to work to build that relationship, so you're working so much harder to know." Beginning from a place of isolation, teachers had to focus on building relationships with students. Allowing students to feel secure nurtured their connections.

Unevenness

"Care is not inherently good. It is an uneven relation and can contribute to and/or mitigate unevenness."

- Max Liboiron, *Pollution is Colonialism*: 115

For all these reasons, in some cases, participation in virtual schools resulted in deeper relationships for teachers and students than they were able to create in person. Students who felt they had previously fallen through the cracks were held. Yet this position, though emphasized by a number of participants, was far from universal. While some teachers described their strategies of developing connections as broadly successful, many others referenced their attempts more as a last effort to recuperate something they had lost – an echo or a shadow of the kinds of connections they had with students in traditional schools. Despite the extent to which some teachers proclaimed their ability to cultivate stronger relationships in the virtual environment, many continued to feel that their relationships with their students in the virtual classroom were far more limited than those they had developed in person. For many, this was the biggest drawback to working in a virtual school.

On the one hand, teachers face the task of making their work visible in order to make clear both how much they are working, and the outright impossibility of meeting the needs of each student in a personalized fashion under the current conditions of their labor. The one-on-one time so prized by many teachers as key to the benefits of virtual schooling is made possible by the invisibility of other students during the time spent one-on-one – the distance between them. And yet that time is also often invisible to administrators, despite being a critical part of achieving their desired outcomes of all students passing their courses and scoring well on standardized tests. Teachers find that the invisibility of the process for achieving the desired result can backfire on them, as more and more work is piled on their plates without a concomitant expansion in the time they have available to achieve it or the compensation they receive for doing it.

Even for teachers that managed to initiate and maintain successful attunement much of the time, there were still those students that remained elusive. I had seen Beth (E6) in the hallways of Lake

greeting each child she saw by name and frequently asking about some specific personal aspect of their lives and been impressed by her connection with them. So, when she argued that failures to connect were an inevitable, if haunting, aspect of teaching anywhere, I took her seriously. She explained:

It doesn't always work. Some people's walls are bigger than others ... It took some maneuvering and massaging of relationships to make sure that I really knew everybody ... there's always kids that weigh on you ... I failed this kid, I wasn't it for that kid. And I always tell teachers that you're not always going to be it for *every* kid, but every teacher will be it for *a* kid ... I could probably rattle off ten names of kids you still think about.

Perhaps tautologically, students that didn't stay in touch were hard to connect with. Stephanie (E12) said,

I think the hardest part is some of the students that just don't respond to anybody, and their parents won't respond to anybody. The student doesn't talk to their parent, and it's just when there's zero communication, there's really limited options of what we can do. You lose out on that relationship that you can't build with a student who's not showing up because if they're not logging in, you can reach out, but if a kid isn't showing up, then you can't talk to them because they're not there.

She distinguished students who felt truly impossible to connect with from those who simply needed more encouragement:

Then there's some students that won't respond for a little bit because they almost feel guilt, and [are afraid that] I'm going to be mad at them. I will just continue checking in in various ways, and eventually they will end up responding to me and say, 'Hey, I'm sorry ... I'm just so overwhelmed, and I don't know what to do.'

Given the opportunity, she could make progress with some students through continual expressions of care, offering scaffolding to students about how to respond in difficult situations. But there were those who continued to remain evasive, and Stephanie and other virtual school teachers had limited options to escalate these situations. As described above, many schools relied on parental involvement in order to ensure student participation. This dependency was itself a source of unevenness. Figueiredo-Brown (2013) argues that the demand for intensive familial contributions "permits some schools to opt out of providing supports that are requisite for an under-served student population" (49). While Eagle Academy would report students for truancy when they fail to participate, and the Pelican School would unenroll students when there was no communication, other schools would simply write off some portion of their student body.

As discussed in the following chapter, this could become a point of conflict for teachers when they were asked to account for these children while feeling there was nothing they could do to engage them. Within in-person settings, neither teachers nor schools were generally expected to be responsible for ensuring student attendance beyond alerting parents to their children's absence, though high rates of truancy could impact their assessment and funding. Thus, virtual

schools once again presented an exaggerated version of the dynamic already at play in many school systems.

Despite the heroic efforts of many educators to connect with their students, teachers' efforts at attunement were often not evenly distributed. Given the emphasis placed on shared experiences in building relationships, it is likely that teachers were closer in the virtual environment to those students and their families with whom they personally identified. Kate also pointed out what a difference school structure, policies, and incentives made in whether or not she was able to build connections with the students and families she served. As I will discuss in the next chapter, many connections were precarious because they could not be directly measured or quantified, and thus were subject to being de-prioritized in favor of quantifiable metrics.

The extensive one-on-one time they spent with some students came at the expense of talking to others. Prioritizing who received in-depth attention came down to whether a student was seen as a problem – those who were not meeting requirements or expectations – on one hand, and those who were receptive to and even actively seeking out connection on the other. Students who refused any kind of participation would be more likely to face expulsion than those who completed enough work to be considered on task while eschewing inter-personal interactions. Because the information teachers had about students was narrowed by default, they missed out on the possibility to respond to signals unavailable to them. If students were doing what was asked of them without additional prompting and did not express an interest in getting to know teachers, teachers were less likely to spend time and energy pursuing those students. These might be students who would have benefitted from the kind of proactive effort other participants described, including students who were facing abusive home environments or who distrusted teachers based on prior negative experiences. While in our initial interview, Kate emphasized that parents were required to be in communication with teachers, when I followed up with her, she noted that this was actually only the case when students were failing. “Isn’t that sad?” she asked rhetorically in her email.

Was it sad? Having gotten to know Kate, I could only imagine students and their families benefitting from her friendship and support. But not all teachers come in peace. Again, some students were actively trying to evade harmful interactions perpetuated by educators by attending virtual school. In those cases, teachers' willingness to leave them alone as long as they got their work done constitute successful harm reduction. The beneficial relationships teachers were able to achieve in virtual classrooms were thus uneven, but the same is true in the dominant education system. The same conditions or practices benefit some while disadvantaging others. Such divergent outcomes can be the goal in systems that work to maintain social hierarchies (Liboiron 2021). What is bad for some can be good for others. While some students who were not able to access caring relationships in traditional schools found the opportunity in virtual schools, others who might have had more luck in-person struck out online. Further, some students continued to be excluded from networks of care in either setting. This could be desirable for those with access to care within alternative communities that might better appreciate them – such as churches, skateparks, or activist movements – but painful for those who had not found supportive network. Virtual schools were far from a panacea for those looking for alternatives to existing educational options.

Surveillance and Violation

Despite gaining additional control over disclosure in some situations, students and teachers also faced increased surveillance of certain types within virtual schools. Digital technologies often bring new avenues of surveillance through pervasive data collection and context collapse (Brayne 2017; Nissenbaum 2010; Zuboff 2018). While I have tried to emphasize above the ways in which the current arrangement of virtual schooling provides greater privacy in some ways, it is certainly true that new avenues of monitoring are facilitated by and made use of in virtual school environments.

When I asked Gabe (S2) how he felt about the school monitoring his chats with other students, which he had mentioned, he said, “I find it fine. I didn’t know that until a few days ago, but I guessed it. It’s a school thing. They monitor all chats at schools and stuff.” When I probed on this, asking what made him guess this to be true, he continued, “It’s a school [laughter]. I don’t think any school’s just going to let their kids freely talk like it’s texting randomly... It’s just what I think of with schools in this day and age.” Despite his experience with in-person schools, where verbal conversations with peers would be unlikely to be recorded, his expectation of communicating through the school’s platform was that his interactions would be surveilled.

As previously shown, for teachers, complaining about students to one another presented a way to share valuable information and to validate their experiences, letting off steam. Yet this behavior could also be subject to sanction. For teachers who did not have the opportunity to meet casually in the hallways after school, social media could at first appear to be an attractive option for finding connection with their peers. Yet social media presented new dangers, in particular, the quality boyd (2011) calls “persistence,” lasting documentation of one’s comments and the potential for posts to be viewed by people the speaker is not aware of. There’s always the danger someone is reporting on you, with screenshots as evidence.

Shannon (T4) recalled getting in trouble along with several other teachers and the chilling effect it had on her willingness to engage going forward:

There was a posting on Facebook that was something like, ‘Oh, you want to do all of your work on the last day, sorry, the F fairy has granted your wish,’ or something snarky like that. It’s borderline. Should you post it as a teacher? Maybe not ... does it mention [Pelican School] or any specific students? No. So technically you’re not ... violating any laws. But [Pelican school] has a policy that you’re not allowed to say certain things on social media and what not, and somebody saw it, and reported it, and my dumb self was like, well a way more veteran teacher and some other really veteran teachers posted this, and are commenting on it, and stuff, so I’ll just comment. And I commented something like, ‘Yeah, I had a student text me at 9pm tonight to do [a test that must be completed synchronously on the phone].’ ... And of course, we shut down computers at 4:30, but I was working late, but there’s no way I was getting on and doing [that test] at that time of night. So I’ve got a directive in my file for that comment. So you have to be really careful. I’ve deleted a lot of people and disconnected from a lot of [Pelican school] stuff on Facebook. I took it off of my employment history on Facebook.

For Shannon, not using Facebook to connect with her colleagues meant losing out an important opportunity to build her relationship with her peers. In addition to bonding about their jobs, she found they grew closer socially via the platform, which led to more robust conversations and collaborations when it came time for them to plan for the year. Now, she said, she was seeking out alternatives “like group messaging apps that are private” in order to maintain these connections.

Because of the risks they take in having taboo discussions (including both rather innocuous commentary, primarily descriptive retellings, and more value-laden interpretations), teachers need to have a pre-existing relationship of trust in order to engage in this kind of sensitive conversation. When they can talk in person, there’s less pressure on the relationship to maintain secrecy, because the affordances of a face-to-face conversation raise the barriers to reporting. But when they are physically separated, teachers must be more wary about what they say and how, for fear of reprisal. While the prior example makes plain the positive potential of cracking down on channels of unmonitored conversation (to avoid the spread of stereotyping and mean-spirited gossip), the resilience of this behavior even under duress calls into question the efficacy of de-platforming in this context. Here, hateful speech can be merged with, or impossible to distinguish from, helpful detail. Rather than attempting to shut down discussion about students, which can reveal vital details necessary for appropriate care, pro-actively addressing issues of bias while nurturing opportunities for sharing can help teachers feel safe about opening up to one another. Paradoxically, from this point of safety, genuine concerns and misunderstandings can be better addressed head-on.

More broadly, this example speaks to the tenuousness of relational approaches in an environment of pervasive surveillance. Teachers experienced variations in the amount and type of workplace surveillance they were subjected to in virtual schools. Jill (E4), a guidance counselor at the Lake School, had previously worked at three virtual schools in addition to her current hybrid position. At one of her prior schools, her computer was explicitly monitored: “They track your computer from 8:00 to 5:00. They have a little thing in there and it tracks everything you’re doing. If you visit other websites with it, they track it.” Other teachers suspected their activity was recorded on their work computer, and were correspondingly judicious about their internet use, but did not expect their employers to be constantly monitoring their behavior. This monitoring threatened the ability of teachers to develop deep relationships with each other and with their students.

In contrast, when participants choose to take risks by revealing themselves to others even when they might be punished for their vulnerability, it can paradoxically work to enhance the perception of their humanity. Teachers at multiple schools referenced employer policies forbidding simultaneous home childcare while they were “on the clock,” despite the fact that many teachers chose virtual schooling in order to balance their own care-taking responsibilities. Anthony (T3), a social studies teacher at the Pelican school remembered,

I have a distinct recollection of a big meeting where [the CEO at the time] kind of called people out on that and said, ‘You’re shortchanging your own child, and you’re shortchanging your students. Unless you’re a super person.’ There were tears in the room ... people were trying to work both ends of it.

While many teachers wanted to move to virtual schools in order to manage their caretaking responsibilities awhile simultaneously earning an income, as discovered by millions more throughout the COVID-19 pandemic, juggling both sets of demands simultaneously was immensely difficult. Whitney (T11) had moved her daughter to the Lake School when she began teaching there. But acting as both teacher and learning coach meant balancing two full-time jobs at once. She remembered,

As a parent, I felt like with me working full time and her being at our school full time, that it was a little challenging ... I'm teaching right now in one room, and she's supposed to be working on her things in another room, and I come and she's fell back asleep, or she's doing something else she's not supposed to do.

When teachers had their video enabled and students or their parents could see children in the frame, this opened teachers to the potential for students and parents to complain to their employers. This dynamic in some ways mirrors the literature on the “surveillant consumer” (Stark and Levy 2018), and suggests the complex entanglement of care and surveillance that imbues the educational ecosystem. Kumar et al. (2019) have highlighted how teachers can act as “surveillant consumers” in the classroom, here, parents have the opportunity to keep tabs on teacher behavior, both through visibility into their intimate lives and in the possibility to monitor everything teachers share with students – messages, assignments, lectures. It is this very risk, however, that can deepen the bond between teachers and students and their families – by making themselves vulnerable, teachers create an empathetic bond. Because visibility is chosen, rather than imposed, they position parents and students as allies rather than adversaries.

When families could see into teachers' lives without having established trust, the relationship could turn intrusive and threatening. Vanessa (T5), like several teachers I spoke to, physically distinguished her personal and work lives by having different devices associated with each. This boundary, however, was clearly difficult for her to maintain, and something she worried about. She had mentioned that even if a student was removed from her classroom, they would still have her contact information. When I asked her to say more about this, she thought aloud about her threat model¹⁵:

But they – I guess it's, you know, they really don't have a lot of, um – I'm sure that they could find out where I lived. You can find anything on Google. But um, I don't think that that has really been an issue for me. They know – on my class website, I have an about your teacher page. And I control what's on there. So, I let them know – I like hiking. I like backpacking. I like to travel. I like cooking. But nothing else. It's just like the basics ... Some people do put pictures of their families. And their kids. And what not. And that's fine. Because again, you control what they see. Or what information you put on your website. But, I mean, even in the traditional classroom, you could take my name, and go to the department of education website, and email – put it in, and look it up, and see if I've had any incidences, or what my certifications are in, so.

Vanessa starts to suggest that students and parents might not have much access to her, but stops

¹⁵ I've maintained some of the filler words throughout this quote to indicate Vanessa's hesitancy as she worked through this thought. I've cut others that seemed to be more the product of typical verbal speech.

herself, noting that her address is likely publicly available. As if to reassure herself, or to offset this lack of control, she goes on to note the information she has chosen to share – vague hobbies – “but **nothing else**” – nothing that could be more uniquely identifiable. Enough that she is clearly human, with jumping off points for building on shared interests, but not enough that students or their families could gain more intimate familiarity with her, such as photos of her family. She then pivots again, emphasizing that it is not the content of the information, but their ability to control what is made available. Yet raising this brings up other information that she and other teachers cannot control access to – her professional record. In working through this, Vanessa maps out the complicated terrain of visibility. She is required to make visible certain information, that can be used to support her teaching efforts, but also seeks to protect herself by setting aside more intimate details. During our call, she told me that the mother of a child she had taught three years earlier texted her a few months before, asking that Vanessa give her a call. “And I’m like, no, I don’t think so!” Vanessa said, laughing nervously. “I haven’t talked to or seen or taught your child in several years. There’s no reason why you’re calling me. So that, that’s a bit odd.” When I asked if she ever learned what that was in reference to, she said, “Noo, I didn’t. That’s usually never a good sign. So, I just let that one go.” This was, for Vanessa, a matter of safety. Without control, the relationships that allowed her to practice attunement were also potential sources of risk.

In addition to being potentially dangerous to teachers to build a relationship that extended beyond the immediate realm of instruction, schools also suggested these relationships could be dangerous for students. As with meeting in person, and despite the fact that teachers and students would sometimes use their video cameras in their one-to-one interactions, personal relationships between teachers and students were also subject to scrutiny because of fears about child abuse. Schools asked teachers here to walk a thin line – building relationships with students as needed to perform their jobs but maintaining boundaries that kept them from developing relationships outside of the institutional context. While such divisions might be common for therapists, teachers have traditionally been understood to be more a part of the broader community fabric, such that their job is not only to tend to the individual students in their care, but also to participate in the overall development of the school. Depending on the school and the community, this role might extend beyond the walls of the school building to include activities in the wider community. Despite the classic story of the shocked student seeing their teacher in the grocery store and realizing they exist outside of the school building, particularly in smaller, tightly knit communities, teachers may well be known adults outside of their job responsibilities. Vanessa noted that at the Pelican School, in addition to not being allowed to meet students in-person except for sanctioned school activities and with another staff member,

It’s really odd, because technically, if they’re not your student any longer, you’re done with that transcript, you’re not allowed to talk to them. They’re no longer on your roster, you have no purpose in talking to a minor.

Teachers did sometimes maintain relationships with their students and their families after their official relationship had ended. Once again, this was a risk they could take on by choice, when there was a shared context of trust. Otherwise, they were prohibited from keeping up those connections. Intimacy could fuel their work, but also presented a certain amount of danger which teachers had to constantly manage.

Necessary Practices of Care

I argue that rather than being coincidental or temporary side-effects of virtual school implementations, these practices of care labor are *necessary* for virtual schools to operate long-term and with a broad population, even as they make it impossible to act at the kind of automated scale some companies seem to desire. While virtual schools vary heavily with the extent to which they involve these practices of relational and affective labor, those that facilitate such strategies are better poised to attain sustainability and to engage a broader range of students and families.

The caring relationships teachers develop and leverage in order to practice attunement with students allow schools to continue to function without micromanaging student practices. Teachers' relational care work benefits schools in four major ways:

- 1) **Facilitating better teaching** – When teachers know their students, they can personalize their instruction in both content and method, allowing students to actually learn more. Without caring relationships, students and families are reticent to share information about their experiences. Lacking the physical surveillance of the traditional classroom, teachers face students with greater autonomy about their own visibility. When students and families feel safe, they are more likely to open up. Further, by building trusting relationships, teachers set the groundwork for students' motivation to expend energy on their schooling and for students and parents to accept the guidance of instructors.
- 2) **Eliciting Engagement** – Just as social media harnesses the drama of human relationships to lure users into lending their attention to digital platforms, teachers' affective connections to students tether them to interacting with their school. While virtual schools aren't selling advertisements based on eyeballs, the developers of virtual schools nonetheless compete in the "marketplace" model of education. Keeping students engaged helps the bottom line.
- 3) **Boosting teacher satisfaction and retention** – While some virtual school teachers are fleeing perceived harms of traditional school environments, many still gain deep validation and satisfaction from knowing and helping students. Practices of attunement develop and cement reciprocal attachments, recognizing teachers as humans and fulfilling their emotional needs. These connections help keep teachers from seeking out other jobs, even when facing other workplace challenges.
- 4) **Softening and supplementing bureaucratic harshness** – Where standardized organizational policies can come across as hostile, teachers' improvisations in response to the needs and desires of students and their families avoid backlash that might require institutional change.

Facilitating Better Teaching

Schools' ostensible underlying goal is to provide students with an education. As discussed at the beginning of this chapter, scholars consistently find that learning is more than the acquisition of discrete skills by individuals, and instead is supported by and exists within robust social

connections. While some digital education projects, like MOOCs in their early form, attempt to outsource this component of learning, displacing the responsibility for anything other than providing static content, having teachers who are attentive and responsive to students expands the success of the educational effort. Each strategy teachers implement to enact attunement functions to elicit more information about students (in the absence of traditional face-to-face resources) and heighten their willingness to accept teachers' overtures and interventions while maintaining their autonomy.

While many teachers consistently felt that their practices of attunement in virtual environments were merely pale substitutes for their in-person classroom efforts, others found that virtual schools opened new horizons of understanding and connection. This was especially true of gaining greater visibility into students' home lives. Amanda (T23) explained,

I feel like I knew more of what was going on inside the home. In the brick-and-mortar setting, I didn't always know that. If the parent would write a note to me, that would be great, but in this situation, if they haven't logged in for a few days, I pick up the phone and call, 'hey, what's going on?' and so you find out more that way. Whereas in the brick-and-mortar setting I wouldn't do that, because the student would be in the classroom. I would just talk with them. But I think ... talking more with the learning coaches is what helped me know more about the families.

Stacey (T19) similarly found that she was able to plumb new depths in her ability to support her students because of the new kinds of visibility she achieved in the virtual classroom:

I was able to dive into even more what they're learning, what their strengths are, what their needs are. I was able to talk to the parents on sometimes daily, weekly, bi-monthly, monthly basis and just really get to know the parents and sometimes the extended family. That's very rare in a brick-and-mortar setting

The more teachers know about and understand students, the better they are able to adapt to the needs of that individual student. By pursuing care work, teachers can identify barriers to students' success and be in a position to address them. These supportive interactions also make students more motivated to work, knowing their efforts are recognized and appreciated. Allison (G2) spoke glowingly about her son's experience:

Being able to communicate with somebody intellectually that didn't treat him like a kid. I think they go out of their way to treat the students like people. Not just, oh well, because you're in fifth grade or you're only 11 years old or 12 years old that you don't really understand stuff. I think for the kids that was huge, treating them like a person.

This level of respect reflect Valenzuela's (1999) "reciprocal sense of connectedness" and Siddle Walker's (2009) "interpersonal caring" – those elements of the relation in schools vital to students' willingness to learn, particularly for students facing violent systems of oppression. Even among those students who are in privileged social positions, students in virtual schools are more likely to be wary of educational institutions and to feel marginalized within schools, making these practices of care even more important in order for them to open up and commit to

the school experience.

Eliciting Engagement

Getting students to engage was *the* primary challenge for virtual schools. Students who enrolled and then functionally disappeared, not completing work or even logging in to the system, were enormously frustrating to teachers. In addition to their concerns for the well-being of these students, discussed in the previous chapter, teachers also worried about their own evaluations and the ongoing existence of their workplaces, which were both tied to student activity. While most schools must compete for enrollment under the “marketplace” model of school choice that has become dominant in public education in recent decades (Horsford, Scott, and Anderson 2018), virtual school providers are also in competition to be selected by schools and districts to run their online components. Virtual schools are thus competing for individual families as well as for lucrative contracts with broad school systems. Schools can and do jettison particular virtual school companies if they become dissatisfied with their management, even if the school was founded in conjunction with a particular charter management organization. This was the case at the Lake School immediately prior to the beginning of my research there, when the board decided to transition from national charter management organization Bluebird Inc., which develops virtual school curriculum and provides organizational structure and digital content management system for a vast array of institutions, to being independently managed and using services ala carte from a variety of EdTech providers for curriculum, content management system, student information system, virtual meetings, and more. The school Lisa’s (G4) daughter Sarah had once attended similarly changed hands after Sarah had graduated. As will be discussed in more depth in the following chapter, public schools are also accountable to state authorities to verify student attendance in exchange for public funding (although, as I will discuss, virtual schools have often played fast and loose with these restrictions). Teachers’ relational labor is one way to sustain student engagement in order to meet these goals while respecting student autonomy – the promise of virtual schools to begin with. Students who feel cared for and who are invested in their teachers, are more likely to perform the tasks necessary to keep the schools in business – less likely to drop out.

Hochschild (2003) points out that many “institutions manage how we feel” (49) as a core part of the service they provide. Famously, she documents that a critical part of the labor flight attendants perform is establishing for customers “the sense of being cared for in a convivial and safe place” (7). This effect is achieved through the worker’s “emotional labor” – “the management of feeling to create a publicly observable...display” (7) which elicits the desired condition in others. Teachers’ emotional labor ideally sustains good feelings in students and families which keep them not only enrolled but also actively playing their part in the school system. This work is intensive, requiring a great deal of energy from employees and an apparatus of support in order to maintain it over time.

Shestakovsky and Kelkar (2020) argue that this kind of “relationship work” is key to retaining customers for digital platforms. Despite not being “customers” in the traditional sense, students and their families at least in theory have choices about where they attend school (or if they attend at all, given pure homeschooling options and the ability to legally drop out for those over 16). Because of the regulatory infrastructure in which schools operate, enrollment is not sufficient.

Even when virtual schools are willing to ignore huge swaths of students' limited or non-existent engagement (as many have been in the face of ambiguous rules and weak regulatory enforcement), existing engagement bolsters their argument for existence. Enacting attunement helps organically grow student engagement beyond those students who would do the work entirely on their own.

Boosting Teacher Satisfaction and Retention

Many teachers chose their professions in part because of the joy and satisfaction they achieve from developing close connections with students. In virtual schools where connections were disrupted, teachers bitterly missed those relationships. In *Information Activism*, Cait McKinney (2020) describes the frustration of some volunteers on lesbian telephone hotlines in the 70s and 80s who chafed against prohibitions on sharing personal information with callers because they felt it made their mission more difficult, even though that distance was an intentional way to preserve safety and accessibility for both callers and volunteers. McKinney writes,

Jess is unable to form close bonds with individual callers because of the switchboard's policies. The switchboard was not a long-term counseling service, and these policies were designed to set boundaries with repeat callers by keeping staff schedules private so that callers could not reach the same volunteer consistently. Jess's log suggests that she ended this call feeling deflated by administrative limitations.

Telephone work created mediated distance from callers that was part of a hotline's point: callers could maintain anonymity and reach out for help without joining a group or even leaving their homes. This distance is the hotline's media specificity. However, the distance limited a volunteer's ability to bring women in trouble into the fold of counter public care. (81)

Similarly to these hotlines, virtual schools imposed distance in part as a way to protect participants from the dangerous elements of connection. Yet teachers often longed for those opportunities. When teachers were able to institute practices that reinstated closeness with their students and allowed them to feel like they were acting as true mentors, they experienced deeper satisfaction with their work. Emma (T17), who like Vanessa felt that the attachments in virtual schools were weaker than her experience of in-person, noted that even rare occasions in which she was able to develop a relationship with her students helped to fill that gap. After commenting on how much stronger her bonds with students were in her brick-and-mortar school, she mentioned the notable exception to her difficulty cultivating relationships with her students online:

There's probably three or four that I see at testing [in person] every year and stuff like that, that we've really developed a good banter and a fun dynamic. We'll see each other sometimes because they're local. I think those face-to-face events, they create an enjoyment for the kids, a personal commitment to the school almost, a personal relationship to the school, which allows them to stay. Also, as a teacher, it fulfills that need for seeing kids.

Emma depicted these interactions as not only functional, but as mutually fulfilling. For her, the biggest challenge in adjusting to virtual school was her desire to maintain supportive relationships with her students, and even minimal ongoing personal interactions worked to soothe that ache that something fundamental was missing. Jill's (E4) experience at several virtual schools illustrates the pitfalls that occur when schools did not support practices of care. She described her first virtual school as having "a family environment," and when she arrived at the Lake School, found it "very friendly, very family based." But when she moved out of state and took a job at the virtual school in her new location, "it felt very corporate. It felt very black and white. Are you meeting your numbers? We're sending you a scan of what you did every day. You have to clock in at this time and clock out. It was completely the opposite of what I love about this environment. No relationships amongst the other teachers. I did that for nine months and I quit." Jill's experience highlights the limitations of relational labor in virtual schools. While attunement was possible in digital environments, it was far from guaranteed. Jill recalled:

That was the most disconnected I ever felt ... We mailed the kids packets and then they would mail them back to us and we would grade them. It was so old school. Anyone could've been doing that work. I didn't know the kids at all.

Hochschild argues that emotional labor involves not only presenting a particular emotional state, but often managing one's emotions so that the desired affective response was genuinely present, which institutions can influence by making particular resources available and restricting circumstances that could interfere with the desired condition. By providing teachers with situations in which they can get to know children and be known by them, schools generate positive feelings within teachers which in turn contribute back to their ability to care about their students, make teaching more effective in a virtuous feedback loop.

Softening and supplementing bureaucratic harshness

The inclusion of "caring teachers" in the school assemblage bolsters virtual school advocates' claims about the value of virtual schooling. They leverage social imaginaries of schools as hostile, dangerous, and uncaring to present an appealing alternative narrative. This alternative imaginary draws on gendered expectations about women in the domestic sphere, emphasizing the element of teachers as care workers. Without explicitly making such claims, virtual schools can suggest that their teachers, many of them mothers working from their own homes, will be empathetic and supportive in a way that villainized union teachers who are portrayed as greedy and apathetic.

When Stephanie spoke about showing students they could relate to her, what she detailed was not simply about moving from the position of 'stranger' into the category of 'known person.' She also emphasized how she might otherwise be perceived as a faceless bureaucrat, an almost automated system monitoring and assessing students. What she was able to do by meeting in-person, what Vanessa accomplishes through self-deprecation and humor, and many teachers establish by asking after a child's interests, is to set aside a focus on her administrative role and convince students that she *cares* about them as people. This belief students have, this burgeoning relationship, lubricates their interactions. It genuinely supports students' sense of belonging, but it also facilitates the smooth collection of data on the student.

These relationships work to smooth over potential points of friction, bringing to the forefront their importance and resilience in the face of a system that outsources some traditional labor roles of teachers to either lower paid, non-professional workers or to automated systems. Jane (T6) shared one example:

I actually had this student fairly recently who I had to, unfortunately, write up an academic integrity violation. Being online it's so easy to go on to an external website and copy and paste things, which is really unfortunate. I had to send out communication to the student and parent. That's a template that I need to use. It's definitely very strongly worded because it's a serious issue, but probably not the same wording that I would generally write. The response that I got back from the mother was not very nice. We ended up scheduling a time to talk and I ended up talking with the father and the conversation went very well. I was definitely a little bit nervous going into it [laughs], thinking, please don't yell at me. This is the policy that I'm following.

But when we were able to connect, it went very well. I just tried to reinforce the fact that I'm here to help support his daughter and that I just don't want this to happen again. This is the policy and it has to be enforced, sort of thing. I remember him saying at the very end of the conversation, "I talk to people all day and this is by far one of the best conversations I've had." I just never would have expected that in that scenario. I would say that's a really good example of when a phone conversation is definitely the way to go because it really humanizes what's going on and not just another person on the other side of a screen either.

By putting students and their families at ease by making them recognize or remember the educator's humanity, teachers also downplay their professional role and its consequences. Like police in TV interrogation scenes, teachers coax student participation and sharing of information by suggesting that they only want to help. Of course, this is largely true! Teachers do want to help students understand the material, they do want to connect them with the resources they need. But they also have other goals, to collect data on students not purely for the student's benefit, but also for the protection of the school as a whole, and indirectly to support the teacher's job security (via their evaluations and funding). They accomplish these goals through developing relationships. Vanessa says the learning assessment is "like talking to a friend," except that the friend would likely not have power over the student based on how they perform.

Poster (2019) makes the point that the affect communicated by a worker's voice is a valuable tool in reducing consumer frustration with increased standardization. Teachers' communications with students and parents acts similarly, putting a human face on a bureaucratic system that may have been a source of perceived harm for many families participating in virtual schools. The problem here is that teachers may set up promises they can't keep. By approaching students and parents as friends and allies, they set the stage for betrayal when they are called to service on behalf of the institution where its goals conflict with those of students and families.

Care, especially in institutional settings, often has this double-edged element. Nurses, teachers, librarians, and social workers straddle the divide between the goals of the state or institution and

the goals of the individuals and families with whom they work. Greene (2021) argues that in order to preserve their own security in a climate of austerity, members of these “helping professions,” especially those who are white and middle-class will often adopt neoliberal goals and practices to the detriment of those they claim to serve, who are more likely to be working class people of color. Stark and Levy (2018) describe the reverse scenario, which pits parents (particularly those with socio-economic privilege) in positions of power over workers (especially those who are economically vulnerable). Kumar et al. (2019) note that teachers can enact a similar dynamic onto students, monitoring their behavior in ways that diminish their sense of students as holistic people in favor of a focus purely on the data they produce. There is a constant balance to be maintained between attunement and control. Teachers were most likely to step up their communicative efforts when students were not meeting standardized expectations. The practice of attention, of noticing, can be entwined with disciplinary mechanisms, where teachers may record and intervene if they notice a student doing something other than what they are *supposed to* be doing. These elements are inter-related, bound together, build on one another although they can also undermine each other.

Teachers here remain core to the project of salvage accumulation – assisting families in translating their diverse activities into standardized outputs. They become allies to students and families in achieving their goals, but are also allied with the schools in ensuring the necessary production takes place because they are under pressure to perform this function. Teachers’ motivations for developing authentic emotional bonds with students and their families and seeking to promote students’ overall wellbeing had dual and sometimes dueling roots – one in genuine desire to support students, the other in the effectiveness of this technique in accomplishing the school’s goals, rather than the student’s. Often, these went hand in hand, and/or teachers would negotiate between them, working to align students’ goals with those of the school. Sometimes, however, student goals were at odds with what the school wanted, or even what teachers wanted. At these points, teachers could leverage their emotional connections to students to produce the outcome they needed.

Conclusion

Despite the challenges of opacity, teachers in virtual schools find ways to practice attunement, supporting the ongoing function of virtual schooling. While far from universal, these interactions point to the possibilities present in platform mediated connections, and suggest that caring relationships between practitioners and recipients can be beneficial for platform stability. However, these relational tasks are labor intensive and under-resourced, placing this model of virtual schooling at risk. Further, practices of connection remain closely nestled next to practices of coercion. Once phone calls go from being an organic effort to connect to a mandate, their fundamental possibility as the space to build relationships starts to evaporate. For this reason, many teachers and parents were ambivalent about the efficacy of these strategies, and would advocate for diminishing the omnipresence of calling in the repertoire of school actions. Teachers were often frustrated that parents wouldn’t answer or return their calls. While they could sometimes count an attempted call as good enough for their requirements, more often a call that didn’t connect meant they would have to try again, and again. Parents sometimes felt interrupted or attacked by calls, the intimacy of the medium suggesting a presumption that is not always welcome. These calls can be perceived like those of a debt collector – dreaded and

harassing, ever looming ready to pounce. When parents in such situations *do* answer the phones, teachers can be exposed to outbursts of accumulated hostility. In response, they develop judgmental assumptions about unresponsive or seemingly uninterested parents, undercutting the possibilities of relational collaboration. Why would schools undermine potentially effective techniques for data collection? This is the focus of the next chapter.

Chapter 5: Chasing Data: The Misalignment of Measurement and the Consequences of Trying to Measure Up

*Overview:*¹⁶ Teachers, parents, students flee traditional schools for a host of reasons. Release from particular constraints imposed by traditional schools--presence at and for particular lengths of time, bounded-time for progression through material, prescribed methods of instruction--make virtual schools an attractive alternative regardless of why a student/family/teacher fled. The promise of freedom from these constraints is hemmed in by the imposition of metrics to 1) address public suspicion about those who opt-out (magnified by scandals), 2) assess teacher performance, and 3) hold parents/learning coaches as well as students accountable. These metrics put the three pillars of the stool required for virtual schools to serve students at odds. The opposition created by metrics in traditional schools, while problematic, is more problematic in the virtual schooling environment because of the way key tasks of education are handed off from teachers and schools to parents and other learning coaches. An alternative to metrics, the relational practices of care described in the previous chapter, would better serve the interests of those who've fled public schools. However, because they are resource intensive and shift power from schools to teachers, virtual schools may have limited incentives to invest in them, preferring to churn through families and teachers (in the familiar pattern of the gig economy). This choice however, is likely to further public distrust in virtual schools and diminish their capacity to serve those seeking the safe haven they promise.

“When you measure include the measurer.”

- MC Hammer, <https://twitter.com/mchammer/status/1363908982289559553?lang=en>

“[Science] is mechanic because a phalanx of teachers, technicians, and peer reviewers stands ready to chop off excess parts and to hammer those that remain into their proper places.”

- Anna Lowenhaupt Tsing, *Mushroom at the End of the World*: 272

Intro

I am scheduled to talk with Vanessa (T5), a 30 something white middle-school science teacher in the SouthEast U.S., at 7pm her time, still only 4pm for me out West. We've rescheduled our call, originally set to take place earlier, because she sent me a panicked email in the morning telling me that the block of time she thought was available is actually booked with student meetings. At 7:07 Eastern, sitting alone on Zoom, I email her to check in, asking if this is still a good time to talk. When I don't hear back from her by 7:30, I email again saying we must have gotten our wires crossed. At 7:30am the next morning for her, she replies, “No. It was completely my fault. After having a parent yell at me for 45 minutes I turned my computer and phone off ... which had my reminder set to go off so I wouldn't forget to log on.”

If teachers often join virtual schools in hopes of attaining a flexible schedule, a safe working

¹⁶ Particular acknowledgement is due to Professor Deirdre Mulligan for providing this summary based on her reading of a draft of this chapter.

environment, and the ability to focus on their area of expertise, Vanessa's experience here exemplifies the erosion of these benefits within the virtual school environment. This chapter investigates the decisions that brought Vanessa into conflict with this parent and explores how the potential for virtual schools to be safe spaces of organic and nuanced relationships, diverse collaborations, and idealized pursuits of knowledge is at times undermined by efforts to produce data that meets regulatory standards while limiting worker power and cutting costs.

In the last chapter, I laid out how teachers, parents, and students collaborate in virtual schools, building relationships that are fundamentally grounded in human connection, counter to depictions of virtual schooling as solely about information delivery, passive content reception, and absent of social and community engagement.

Teachers build these relationships in order to practice attunement – to identify what is happening with students, to understand it, and to be able to respond to it in ways that meet students' needs. They engage in this ongoing process for at least two broad reasons. The first is to promote student learning – the ostensible mission of schooling. The second is to produce the data that allows schools to function at an institutional level – the performance and engagement data they exchange for funding and accreditation, allowing them to provide degrees to students and income to teachers. Ideally, the second arises organically from the first, as students demonstrate their learning through their performance in academic assessments. However, the two are not always intrinsically linked.

Virtual schools have developed in part from a desire among participants to escape constraints imposed by traditional schools that they perceive as harmful or inconvenient. As I've discussed, this might mean giving equal time to various subjects when students want to spend more on the things they love or those where they struggle. It can include being expected to sit still and quietly for many hours or being constantly available to work during set times of day. The problem could be high stakes testing that generates anxiety and pushes out creativity. Or it might be a curricular standard in opposition to a family's strongly held religious, cultural, or political beliefs – whether that means teaching evolution as scientific fact or eliding genocide when discussing the first Thanksgiving. As Stevens (2003) finds for homeschoolers overall, these desires for escape or adaptation fall under diverse ideological stances.

But those enrolled in virtual schools, unlike those who self-direct a homeschool experience or hire private tutors, remain tied to collective decision-making – they relinquish some elements of control. As discussed in the "Exit Strategies" chapter, some specifically make this choice because they desire the legitimacy of the institution or to some extent defer to the expertise of educators, policymakers, and curriculum designers. Some want the credential of attending an accredited educational institution primarily because of what that allows them to do – attend particular colleges, be considered for certain sets of employment opportunities – regardless of their faith in its intrinsic value. As Apple (2006) has found, there are those who wish for exposure to mainstream intellectual approaches and content in order to learn how to effectively oppose them. Other families believe that while they can provide certain benefits to their children – individualized support, emotional encouragement, religious instruction – they are ill-equipped to offer an entire appropriate educational experience. Some parents may disagree with the state's position on evolution but appreciate their pedagogical approach to literacy. Others are confident

in their ability to counter white-supremacist assumptions built into textbooks and supplement the standard curriculum with multicultural, Afrocentric, Indigenous, or feminist materials and knowledge and want their children to engage in Common Core based lessons on anatomy or calculus. A student might feel they can far outpace outmoded instruction around computer science in the classroom through extra-curricular programs while loving what they learn in history courses. It is also sometimes the case that parents and students would prefer a private education tailored entirely to their interests or reflective of their worldviews but cannot afford to access the kind of options they most desire, whether because of the tuition burden or the limits on their own time due to work requirements. Some families would like to be free of the public education system but are wary that such rejection might be used as evidence against them in child welfare cases (e.g. WBFO-FM 88. 7 2017). Teachers can access benefits and status they might be denied as private contractors. For whatever reason, those in virtual schools, especially the many in public (whether charter or district) schools, are required to remain within certain bounds in their educational experience, though these demands are often lessened or loosened in comparison to in-person schools.

While public and accredited virtual schools can't eliminate either standardized curriculum requirements or the need to produce data to legitimize their operations to governing bodies, what they can do is to allow for a greater variety of conditions under which that curriculum is enacted and that data generated. Through the relational labor of teachers and the unpaid support of families, they can continue to achieve the necessary outputs while maintaining promised autonomy. However, this system is problematic for virtual schools for several reasons. First, for it to function properly, it is resource intensive – teachers or other staff members must be given time to develop in-depth connections with students and their families and coordinate their distributed labor across varied circumstances. Few public schools can make that work with their allotted funding for all students – and even fewer can do so while spinning a profit for companies like Bluebird and Cardinal. As Tyack and Cuban (1995) discuss in their history of educational reform movements and their failures to enact substantial or wide-spread changes in American schools, “Habitual institutional patterns can be labor-saving devices” (86). Attempting to adapt new practices, especially those that may differ for each individual case, takes a great deal of work, which will cost a great deal of money. The resulting unevenness that occurs in the face of limited resources goes against claims to educational equity.

Second, processes of attunement grant leverage to workers against the threat of deskilling and automation. Relationships are not interchangeable, and the knowledge gained from them cannot easily be used outside of established connections. These connections also have the potential to build solidarity for teachers in labor disputes, further threatening the bottom line. Given these pressures, many virtual schools employ alternative means of improving their metrics. Rather than incentivizing student learning or providing a clear understanding of student needs, these efforts breed hostility between teachers and families and incentivize exclusion, pushing out many of the very students who had sought out virtual schools as a safe haven. This organizational behavior is incentivized by a regulatory environment that allows virtual schools to function with little oversight, emphasizing limited quantitative metrics above policies on curriculum, institutional supports, and labor practices (Molnar et al. 2019; *In the Public Interest* 2015).

Efforts to support attunement via relational labor and to boost metrics and profit can co-exist

within schools, in part because schools are made up of diverse actors. Schools will frequently blend these methods in an attempt to glean the benefits of both and offset the potential downsides of each. However, “chasing data” – focusing on the production of favorable metrics even when it goes against efforts to promote learning – erodes the newfound possibilities for attunement grounded in computer-mediated relational labor.

Care may be central to the education project, but throughout the history of U.S. schooling it has duelled with another core force – the broad effort to monitor, rank, and standardize. If care has often been the hidden or unspoken element at the heart of both a good educational project and one that seeks to exert social pressure through personal proximity, the numbers game encompassed in the keyword “accountability” is the explicit logic of the system. Since the turn towards more Taylorist models of curriculum, schools have been squeezed to fit a mode that complies with dominant expectations. Numbers and their consequences so fully infuse the school system that they are often both intuitive foil and expected strategy. It is cliché at this point to refer to schools as factories, to bemoan standardized testing. It is broadly agreed that “No Child Left Behind,” which focused above all else on these quantitative standards, has failed to achieve its stated goals of educational equity. Scandals of teachers cooking the books for their students’ scores are legendary.

In this chapter, I will explore what these structures of quantification and standardization look like, and how they influence every layer of school life and the (lack of) choices facing those individuals who collectively make up school infrastructures. I will lay out how these pressures, combined with the drive to expend limited resources and diminish labor power, lie uncomfortably alongside practices of attunement in virtual schools, and how and why this misalignment bends virtual schools back towards more traditional forms, despite their initial efforts to the contrary, displaying the resilience of what Tyack and Cuban (1995) call the “grammar of schooling.” And I will explore the consequences of such moves, and how virtual schools could end up being the exemplification of quantification and standardization on steroids, rather than either the alternative focused on personalization which they promise, or the spaces of relational care and social emergence they have sometimes cultivated.

Understanding quantification, standardization, datafication, control, and critical approaches

As scholars of Science and Technology Studies have long sought to emphasize, all knowledge production involves a particular apparatus and infrastructure that influences what is known. Despite the longing of positivists, there exists no unmediated truth. In his classic book *Trust in Numbers*, historian Theodore Porter (1996) puts it plainly when he says, “numbers will depend on the methods specified for getting them” (33). How we count, and what gets counted, shapes the output of measurement. For example, determining how many virtual schools exist in the U.S. is complicated by the factors discussed in the Introduction and Methods sections. Is a hybrid school like Lake a virtual school? Do all of the schools managed by Bluebird Inc. count as independent entities? In addition to questions of classification, any number of circumstances change what is made available to documentation. In the last chapter, I shared a vignette about a teacher trying, and failing, to share live video of himself with one of his students. If that interaction had involved an assessment, the student might have failed or failed to be counted at

all, because he could not see the video. Of course, the same is true of forms of knowledge besides quantification. Giants of sociology like Weber and Merton have illustrated that rather than being divorced from religious and cultural beliefs and practices, scientific modes of inquiry are deeply influenced by prevailing ideological assumptions and values. Steven Woolgar and Bruno Latour's (2013) ethnographic studies of a scientific laboratory tease out the immense amount of labor, tools, and architecture required in order to produce a single variable in a study. They argue that these conditions of production must be hidden in order for the scientific results to attain legitimacy: "the material setting both makes possible the phenomenon and is required to be easily forgotten" (69). The final product of scientific facts must be "eroded of all contingent circumstances" (174), appearing to arrive whole cloth like a divine apparition, a moment of epiphany about the nature of reality. This is how much data from students and schools appears to those who assess it – separated from the lived realities of a classroom and students' lives. As Hayles (1999) points out, there's nothing inherently wrong with this sort of abstraction – "no theory can account for the infinite multiplicity of our interaction with the real" (12). But when the abstraction, devoid of the details that produced it, is made to seem to be the "essential reality" of a situation, rather than a simplified version, complications abound (Hayles 1999, 12).

Yet Latour (1987) points out that these conditions can be foregrounded once again when there is controversy over the nature of the "fact," when its legitimacy is challenged. This 'reopening of the black box' which the scientific consensus had become allows the product to be "brought back into a complex process of construction from which it appears to have been extracted" (Latour 1987, 22). If the conditions of production are thought to have somehow tipped the scale to make the output appear to be something other than what it is, they are suddenly visible and relevant again. Famously, feminist scholar Donna Haraway (1988) argues that "better accounts of the world, that is, 'science,'" (590) are assisted by the recognition of the conditions of production, what she calls "positioning." Haraway argues for the analytical power of "situated knowledges" – those knowledge claims that make themselves accountable to where they came from and how they came to be. Like Latour, she argues that "'objects' do not preexist as such" (595), but are actively constructed, but unlike Latour, she makes a normative argument about the benefit of foregrounding the conditions of production as a means of improving understanding. As Steven Epstein (1996) shows in his analysis of AIDS activism, attempts by scientific experts to bracket off controversy can backfire, fueling conspiracies by eliding details regarding how knowledge claims have been generated. In other words, by recognizing the process by which a fact, a number, a knowledge claim, is produced, one can strengthen its validity rather than weaken it.

There are two key points to recognize from this literature that are central to understanding the operations of virtual schools, the pressures they are under, and how they adapt in relation to those pressures. First, metrics, as a particular kind of knowledge claim, are always contingent on the processes involved in their production. There are a variety of active decisions made at each step in the process of data collection. Central to these decisions is what to include and what to exclude. As Porter says, "Any such measures necessarily involve a loss of information" (44). This process is one of abstraction – deciding what elements will stand in for the whole. James Scott (1998) points out that "Some level of abstraction is necessary for virtually all forms of analysis" (13). All the conditions of production can never be accounted for – the list is inexhaustible. Similarly, all aspects of a given phenomenon cannot be holistically represented at all times. However, the selection of certain representations over others benefits powerful actors

in particular ways. Those with the ability to influence these decisions advocate for choices that obscure information that would disadvantage them, while promoting criteria that further their interests.

Second, because all metrics are conditional on the process that brings them into being, in order to be useful for comparison, to be made *commensurable*, particularly at a large scale, the processes and instruments that are used to create these metrics become standardized, are rearranged in order to ensure particular sets of outcomes. Porter puts it this way: “the quantitative technologies used to investigate social and economic life work best if the world they aim to describe can be remade in their image” (Porter 1996, 43). What began as a convenient simplified stand-in for a particular purpose becomes the only thing of importance amidst a vast array of constitutive elements. Systems must be built in order to produce the metrics that can be evaluated. For Western governments, this has been established via bureaucracy. Entire institutions are built to produce relevant metrics through standardized processes, to translate the messy and full stuff of life into particular data that can be processed, compared, and analyzed. Oscar Gandy (2021) summarizes Weber on this point to explain that “Bureaucratization ensures calculability in ways that guarantee their centralized control” (7).

This was a shift from previous attempts to maintain legitimacy of information, which relied upon the social class of the person providing the information and inter-personal networks of trust. That system began to fall apart when knowledge claims needed to travel more widely, in more heterogenous spheres of life. In 1800,

Scientific reports depended for their credibility on the social standing of the author and of witnesses...Lack of trust was compounded by problems of comparability, the result of diverse institutions and unstandardized commodities and measures. In the information society, information means first of all communication with people who are unknown to one another, and who thus have no personal basis for shared understanding (Porter 1996, 46).

Schaffer & Shapin (2018) detail the early efforts in England to establish legitimacy of empirical scientific expertise, part of this transition. They emphasize that early experimentalists invited eye witnesses whose social class made them trustworthy among the broader society, provided detailed explanations of their experiments so that readers could (at least in theory) replicate their experiments, and created narrative descriptions and realistic imagery in order to allow “virtual witnessing” by those who were not immediately present. They attempted to make visible the conditions of production because they lacked viable alternatives. Variations on these tactics continue to persist alongside efforts of standardization and quantification to legitimize knowledge claims. Schools trust teachers to translate student experiences into data because of their professional status and their proximity to student lives – the visibility they gain into the specifics of student experiences lacking in standardized representations.

This rearrangement of social life in order to allow for the production of commensurable data emphasizes again that knowledge is actively crafted, not simply discovered or found. As Porter (1996) phrases it, “quantification has been part of a strategy of intervention, not merely of description” (43). Creating this level of standardization is an enormous amount of work. It

requires the re-creation of vast swaths of the social order. There is also another force at work here – in addition to wanting to provide commensurable measurements, in some contexts, there are some measurements that are better and some that are worse. For example, while the number of people in a population may not have a normative value (although it often does, as evidenced by recurring debates and anxieties over population levels both low and high), the percent of the adult population who are unemployed might be understood to have a preferred result. Namely, if the society values employment, they may want the unemployed percentage of eligible adults to be as small as possible. They then want not only an infrastructure to measure employment, but also to create employment. Certain ways of doing things are understood to create improved results. These practices, too, become standard. It is also more efficient to do things the same way across different places, knowing that those practices result in good outcomes, rather than risking local diversity. However, this requires taming or removing or bracketing off any elements specific to a place that might interfere with or complicate the standard practice.

Further, measurement exists within a particular set of questions and expectations. Many measurements are compared against each other or against a normative level considered good. Establishing metrics changes things – people adjust their behaviors in order to produce particular outcomes. When these measures are backed by particular rewards or punishments for specific outcomes, people will further adjust to attempt to gain rewards and minimize punishments. Wendy Espeland and Michael Sauder (2007) refer to this process as “reactivity.” They explain the core issue as: “Measures elicit responses from people who intervene in the objects they measure” (2). Sometimes, this is the intended effect of such metrics. They become goalposts to entice specific responses. If your watch tracks your steps but not your bicycling activities, you may start to make choices to walk when you might otherwise have bicycled. If the watch sets a “goal” of 10,000 steps a day, and rewards completion – even in a shallow way such as a digital “badge” – you may be incentivized to reach that goal and take another walk around the block if you find yourself arriving home with only 9,000 steps at the end of your day.

Schools have long faced a problem – that metrics which may have been started out as descriptive (attempting to make statements about the inherent quality of a school, say) – quickly incite reactivity when they are attached to rewards and punishments. This is the intention of those rewards and punishments – to incentivize schools to change their behavior in order to improve their metrics. However, the method of changing behavior is not determined. Particularly if there is no easy or clear way to adjust behavior in order to attack the actual characteristic the governing body wants to judge, people may adapt in ways that those assessing them may consider cheating. Espeland and Sauder refer to this as “gaming,” with they define as “manipulating rules and or numbers in ways that are unconnected to or even undermine the motivation behind them” (Espeland and Sauder 2007, 29). There is, they point out, a “chronic tension between validity and accountability, between taming reactivity and producing it” (35). In other words, governing bodies want people and institutions to be accountable to the metric – to try to achieve its standards – but they only want them to do so by means that are actually related to the quality they are trying to determine, not by tricks that make them appear to be achieving the standard without fundamental change – which undermines the validity of the measure.

There are dozens of critiques across the ideological spectrum that push back against the dominance of numbers without context in the school landscape. In *Closing the Opportunity Gap*

(2013), critical education scholars decry the framing of the “achievement gap” between Black and white students, arguing that centuries of uneven investments in educational opportunity and the active theft of resources from Black American communities in particular, makes the idea of approaching this problem by examining outputs like standardized testing absurd. They are not opposed to including quantitative measures, such as rates of school funding, in analysis alongside qualitative historical context, but suggest that vast differences in *inputs* into the educational system should be considered before outputs can be considered in any way commensurable. Other efforts seek to break apart the hegemony of scoring schools that similarly reflects long-standing patterns of injustice, as when schools with predominantly low-income student bodies receive lower ratings on real estate websites or state provided classifications (Schneider 2017). These Progressive critics charge that approaching the problem in this way points towards the wrong set of solutions – implying something lacking in the students or the governance of a school, rather than in the social system that has consistently failed them and deprived them of adequate material supports. Alongside skepticism towards numbers and what they obscure, there is also increasing push-back towards attempts at standardization more broadly, which are seen as homogenizing forces that squash cultural diversity and impose a particular normative vision on what should be learned (Tampio 2018). Such has often been the project of public education, whether since Horace Mann’s common schools set out explicitly to provide “a common culture” to new American citizens (Labaree 1997), or the U.S. and Canadian governments undertook a systematic project of cultural genocide through forced boarding schools for Indigenous children (Churchill 2004). But the frustration with and antipathy towards this approach has become increasingly mainstream. When the Obama administration backed the Gates Foundation supported “Common Core,” parents and teachers panicked and revolted for a variety of reasons, but one major concern was the idea that the federal government would impose a particular set curricular standard on all schools (Tampio 2018). These movements against quantification and standardization are responsible for the increasing charisma of “personalization” explored previously.

Virtual schools translate distinctive conditions of production into standardized units of achievement. All schools participate in these rituals of commensuration. The absurdity of this abstraction frequently becomes evident, e.g. in a pandemic, or when attention is drawn to the vastly disparate barriers and opportunities facing those paired in classification as students. These practices also come under scrutiny when there are suspicions that the metrics are no longer a valid representation of the thing they intend to measure. Virtual schools promise a move away from standardized practices, a way to skim off the results necessary for funding and accreditation without interfering with the varied processes that bring them into being. As we have seen in the previous chapter, one way to accomplish this is through intensive practices of attunement. However, many schools supplement or even replace those efforts with another means of production in order to cut costs, diminish worker power, and produce substitute metrics that are more legible to the systems of accountability they face, undermining the benefits of attunement.

Types of metrics & standards / forms of quantification

Schooling as it is practiced in the contemporary U.S. is filled with standards, metrics, and attempts at quantification.¹⁷ Educational historian Larry Cuban (2005) explains that towards the end of the twentieth century, “To move toward tough academic schooling for all students, educators imitated business practices. They set high standards, tested students frequently, and initiated strong accountability policies” (9). In this context, “accountability” meant that schools were required to make information available to governing bodies and the public at large who paid for schooling through tax dollars. The goal of these efforts was to ensure that schools were delivering high quality education, and that they were behaving as mandated. As Espeland and Stevens (1998) write, “Quantification permits remote parties to check on people and things they wish to control” (415). Following the model of corporate hierarchy, where the top echelon of leadership determine the alignment of front-line workers with company goals via data on productivity and sales, the organization of schools was targeted towards allowing those outside the institution a way to assess what happened inside. Standardized tests, in particular, provided concrete and easily comparable ways of categorizing school performance. As Seaver (2017) explains in the context of digital algorithms, “To make something account-able means giving it qualities that make it legible to groups of people in specific contexts.” Those assessing schools in this way might not be familiar with pedagogical tactics or research on best practices for teaching and learning but would likely be able to recognize percentage-based assessments and numeric comparisons.

Efforts towards standardization and quantification in education have their roots in many sources, but the general desire was to ensure quality in education and to determine that state funds were being appropriately spent (Cuban 2005). These goals intersect with a desire for equity in education – one approach to ensuring this was through a movement to hold schools and teachers “accountable” for their students’ performance (Hyslop and Mead 2015; Tampio 2018). As Hyslop & Mead (2015) point out, despite its many documented flaws, this focus on achieving parity in student outcomes is based on a fundamental belief in the right of all children to equal education, a concept at odds with ideologies promoting personalized learning. In order to do quality control on publicly funded schools, federal and state governments have developed a variety of metrics and standards that are used to direct school administration, evaluate school performance, and determine a school’s level of financial need. In addition, schools, school districts, and third parties including journalists, non-profits, and for-profit enterprises have also developed metrics and standards that influence the fortunes of schools and thus encourage particular sets of behaviors.

Some of the metrics and standards that structure experiences for schools include:

- **Enrollment & Attendance** – the number of students who are officially registered at the school and those who are marked “present” on each school day.
- **FRPL** – What percent of students qualify for free or reduced lunch based on their family’s income. The federal government uses this metric to designate schools where more than 75% of students qualify for free lunch as “high poverty” and thus eligible to receive additional funding. (Snyder and Musu-Gillette 2015)

¹⁷ My description of both the history and contemporary status of education policies and school practices here is necessarily abridged. For a more comprehensive discussion, see Cuban (2005), Tyack and Cuban (1995), Horsford, Scott, and Anderson (2018), Kliebard (2004)...

- **Credit Hours** – how much schooling they have completed (the student side of attendance, ‘butt in seat’ time, or how far they’re moved through the curriculum) – however, usually students only accrue credit hours for courses for which they receive a passing grade – if they fail, the credit hours don’t count, even if they had somehow been present for every lesson and completed every assignment.
- **Curriculum** – requirement that what is being taught follows a certain set of guidelines, covering particular content and skills.
- **Student Performance** – these measures indicate ‘how much’ a child has learned (mastery) – could be in the form of grades (at an assignment level, a course level, or a GPA) or standardized test scores
- **Graduation and Placement** – what percentage of students receive a diploma within 4, 5, or 6 years, and what percentage of those go on to 2- or 4-year colleges. Graduation usually requires some set amount of credit hours.
- **School Performance and Ranking** – based on these aggregated criteria, a school might be judged to meet certain thresholds for continued operation; or it might be ranked in comparison to other schools.
- **Teacher Evaluation** – In addition to metrics assessing student performance and behavior, educators are assessed at varying levels (school, state, and federal), and using a wide array of methods, for their proficiency at teaching. Finding ways to determine the quality of teaching has been an ongoing effort in U.S. schools since the 1970s (Darling-Hammond, Wise, and Pease 1983). These evaluations are used to reward and punish teachers as well as to target attempts to facilitate improvement, goals that can be at odds (ibid).

As should be evident, these metrics and standards intersect and overlap.

These metrics matter for schools because they directly and indirectly determine school funding, and in some cases, whether a school will be allowed to stay open at all. Schools on average receive just under half of their revenue from local sources such as property taxes, meaning wealthier communities have more resources (Ladson-Billings 2013), while the state provides an approximately equivalent amount supplemented by federal funding (Irwin et al. 2021). This general funding for public schools is largely distributed based on the number of students enrolled full-time, with some formulas adjusting for attendance (Nespor 2019; Ely and Fermanich 2013). Fewer students = less money. Perceptions of a school’s quality, which may be based on criteria such as student performance and graduation rates, influence families’ choices about where to send their students (Calarco 2018; Schneider 2017), although other factors, such as distance, preferred programming, perceptions of safety, or simply lack of options, may outweigh these concerns (Pattillo 2015).

Although the federal government provides supplemental funding to schools designated as high-poverty in an attempt to counter resource disparities, this money does not make up the difference between districts (Darling-Hammond 2013). Further, federal policymakers often determine the allocation of these funds based on alignment with particular practices and performance. Janelle Scott (2011) points out that under President Obama, “the federal approach to public education has largely emulated venture philanthropy strategies for allocating resources to states, districts,

and schools—requiring agencies and external providers to compete for funding by insisting that they adopt a reform agenda based on ‘what works’ (Hess, 2005)” (581).

School districts and states can also have thresholds below which they will no longer allow a school to operate. Charter schools are subject to a renewal process in order to maintain their charter – their review often highlights items such as enrollment and performance. Even district schools face such pressures, as declining enrollment and stagnant or dropping performance can be used as justification for closing a school’s doors. Such restrictions may be applied unevenly, and decisionmakers do not necessarily attempt to understand the cause or context of these shifts (Ewing 2018). This is one reason for tensions around charter schools – if enrollment declines at a local district school because a new alternative has opened down the street, the earlier location will see its revenue drop as ‘the money follows the child’ (Horsford, Scott, and Anderson 2018). This ‘marketplace’ model is sometimes intentionally implemented in order to increase competition between schools, with the reasoning that schools will institute improvements in order to retain their student body, resulting in a better educational experience. However, as critics of such systems have widely noted, charter schools are often relieved of costly requirements that district schools face, and additionally will sometimes hand-select children they believe to be high-performing and who are likely to have less need of supportive services, creating an uneven playing field (Horsford, Scott, and Anderson 2018).

These standards and metrics contribute to the structure of a common school experience. While there exists considerable variation in local schools, these elements result in similar ways of doing things in many different institutions, and in norms and rules that students are expected to abide by (Tyack and Cuban 1995). As Communication scholar Christo Sims (2017) has shown in the context of technology-oriented school reforms, it is exceedingly difficult for schools to break away from these patterns, even when the school’s mission directly conflicts with their continuation. In his ethnography of a new charter school focused on using games for learning in Manhattan, Sims found that minoritized parents were resistant to changes that might lower test scores and take them astray from the state’s stamp of approval. They were reluctant to prioritize fun and creativity at the expense of credentials which they knew would be examined and required in order for their children to access future opportunities (Sims 2017, 105). Yet privileged parents, assured that those opportunities would remain open to their children no matter what, and having initially sought out the school in order to move away from hyper-competitive school cultures, “also pressured educators to focus more on testing” (ibid). Educators and school administrators, conscious of the school’s position in the “marketlike choice system,” oriented more towards testing “after the school’s first-year scores fell below those of peer institutions” (ibid). This example highlights that efforts to ensure compliance with standardization and optimization of metrics are not evenly distributed. For some people, the consequences of falling short on standardized measures are much more consequential than for others. Yet even beyond material repercussions, the “grammar of schooling” is so prevalent that it can come to represent status and quality even for those who actively claim to reject its power.

Directly or indirectly, many participants in virtual schools are trying to get away from the imposition of these standards, or the practices that have been put in place in order to score highly on these metrics. They hope that virtual schools will allow a greater diversity of practices, providing more flexibility in the day-to-day process of schooling, while still enabling students

and teachers to meet the necessary standards. Virtual schools here seek to loosen the relationship between measurement and the set of practices that produce particular measures – offering a translation model rather than a factory production model. As we have seen, that translation work can become possible through teachers' strategies to recuperate attunement, using their personal connections to students to overcome the opacity put in place by the loss of standardization and required visibility. Yet virtual schools struggle to keep up with their side of the bargain, particularly while extracting profit for the private corporations that sometimes design and manage their structure, which continually puts them at risk of closure. In the face of these challenges, as Sims (2017) explains,

Reformers quickly reach for stabilizing resources wherever they can. Ironically, many of the resources that are ready-to-hand come from conventional practices in the figured worlds that reformers aim to disrupt ... As such, attempts to disrupt the status quo in open and improvisational ways can have the paradoxical consequence of refixing activity into rather enduring and tightly scripted forms (89).

When the metrics are under scrutiny and the institution producing them is in crisis, the means of the production are called into question. Virtual schools find themselves returning to familiar ways of organizing at the expense of ideals of autonomy in the search for proven ways to meet the standards.

Incentives

As Espeland and Stevens (2008) argue in their discussion of the sociology of quantification, numbers, like words, are in themselves actions that have effects on the world. One core aspect of quantification they describe is the way people react to numbers. Because the above metrics are so influential, schools are directly incentivized to improve their performance on these measures, to some extent whether or not they address the underlying issues the measurements are meant to assess by doing so. This is true down the line of hierarchy/control – schools want to improve their numbers to ensure their funding and stature, teachers want to improve their numbers to ensure their jobs and raises, and students want to improve their numbers to enhance their likelihood of being accepted to a selective college or desired job, in pursuit of financial security, prestige, and/or a career that interests them. If these improvements to the metrics come detached from actual changes to the things they are meant to measure, particularly through illicit means, they are generally considered cheating.

While Espeland and Sauder (2007) explore how new external accountability systems create reactivity and patterns of change in existing institutions due to competition, my study explores how the combination of existing accountability systems, limited resources, and profit motives constrain the development of 'disruptive' digital alternatives, which then both revert to more traditional forms and produce new means of adapting to accountability structures that undermine some of the initial goals of the alternative. Contrary to the U.S. News and World Reports, these accountability structures are to some extent designed either as goalposts, intended to incentivize the production of certain behaviors, or as warning signs, indicators of a need to implement interventions, rather than to merely describe the conditions on the ground and let people make of them what they will.

Fluctuations in these metrics are a case of life or death for schools, but the means to achieving the desired results can remain elusive. After the Lake School split ways with Bluebird Inc., they were placed on probation by the city school district. This determination was based on their performance while under Bluebird's management, but it meant that they were required to show improvement while developing an entirely new school structure. In their quest to stay afloat, they were also trying to stem losses in enrollment which hurt their bottom line. At a Professional Development meeting for teachers late in the year after the school had been placed on probation, Dr. Arthur, the head of school, bluntly shared with her colleagues: "Keep in mind how enrollment deeply effects budgeting. Our enrollment is very down in K-5 ... My last check, we're down at least 80. \$10K to each student. A significant chunk of change that will deeply affect budgeting." One special education teacher enthusiastically called out, "How do we boost enrollment? What can we do? I can put up posters!" Dr. Arthur, perhaps with some sadness, responded – "Doesn't have anything to do with you – we need PR and marketing." At scale, large institutions were able to manage these sorts of enrollment incentives and extract profit from operating schools, while for small independent operators, meeting these goals was made difficult by a lack of infrastructure. Dina (T10) told me about her ambivalence in switching from a large CMO to independent management because "They're like, a corporation, right? They have millions and millions of dollars. So, they can afford to do all this like high tech stuff and get in there. Also ... they're typical, I don't know, corporate welfare. They make money off of kids [laughs]." A dedicated and passionate organizer for democratic socialist presidential candidate Bernie Sanders, she was deeply troubled by the business models of private companies involved in public schooling. Yet she simultaneously recognized that such a company was able to manage the risks to schools of attempting to live up to public standards while turning a profit because of the ancillary supports they had in place, such as marketing and tech support.

These utilitarian ends are also frequently accompanied by concerns about the actual value the metrics are meant to gesture towards – successful teaching and learning. Teachers at the Lake School wanted to enroll students not just to bring in funding, but because they believed in the value of their model to support students and wanted to develop new approaches to schooling that would improve students' wellbeing. However, willingness to commit oneself to the labor of upholding these numbers and/or to the inherent goals from which they spring is far from absolute – some students and families, in particular, are less concerned with their assessment and alignment with these metrics, and this is in fact a crucial weak link in the system of accountability that attempts to incentivize performance towards these goals. At the same meeting as the one above, Dr. Arthur, who had been brought to the school that year specifically for her experience in turning around schools on the brink of closure, emphasized not just the role of enrollment but also performance in keeping their doors open – and again, on the limitations of their ability to influence the outcome. In order to keep their charter, the city was requiring Lake to follow a "school quality improvement plan." Dr. Arthur lamented of the requirements to improve their scores and participation in state testing, "there are so many barriers we have no control over ... and yet we're held accountable to a very high standard." She explained that although they would otherwise have a 93% participation rate on the state exam, they were evaluated as having only an 86% participation rate, due to families who opted not to have their students participate, which she called "refusals." She further explained that "[even] if kids do very well," they would still come up short for their remediation plan because of the low

participation rate. “It’s sad, because I’m standing here as an instructional leader talking a numbers game, isn’t that crazy?” The requirements of the city pushed school leadership to be more attentive to the number of students taking a test than how to best teach their students the content the test attempted to evaluate their mastery of.

Because some people are not inherently motivated to play by the rules of this game, school systems continually seek to discipline children and families into practices that will culminate in good numbers. At each level, there’s a carrot and a stick. The carrot comes in the form of attunement – where teachers express their care for students and work to adapt to their needs so that they can succeed. Yet when these strategies fail, or when schools do not pursue them, there can also be consequences for the students and families who are seen as misbehaving. While students are rarely expelled on the basis of poor performance alone, chronic truancy, in particular, threatens families with an escalating series of state interventions, including the potential involvement of child and family services and even, in some cases, the criminal legal system (Redden 2019). It is important to understand that these metrics are *always* contested and unevenly applied and interpreted, and that traditional schools have developed complex networks that support the production of these numbers and determine when to take them seriously and when to ignore them.¹⁸

Misalignment

Perhaps quickly apparent is that some of these metrics present unique challenges for online schools.

The default mode of interacting with schools has students physically come to a particular building. Perhaps they swipe an ID card upon entrance, recording their presence. They are then required to show up in a specific room. Maybe the teacher calls their name, and they reply affirmatively, or maybe the teacher recognizes them, and marks their presence on a sheet, or

18. When I was a senior in high-school, I received a letter from the city warning me that I was in danger of being unable to graduate due to chronic truancy. I would argue their method of data production – some of the 40+ days they claimed I had missed were calculated due to a mismatch between my high-school’s academic calendar and the university a mile away where I was taking college classes. Because the university was on the quarter system, while my high-school was based in semesters, the university courses began almost a month after the high-school. The high-school insisted that I had to be enrolled in a full course-load at the beginning of the semester, so they enrolled me in several courses I had no intention of continuing during the times when I would be in class at the university once the quarter began. At the time, I thought this was an arbitrary measure of control designed on the assumption that students could not responsibly manage themselves if not within school walls. Now, I see it as the school trying to preserve their funding and status that might have been lost if I were not fully registered. By the time the university quarter started and I ‘dropped’ the high-school classes I never planned to take, the school would likely already have received funding contingent on the enrollment levels they documented at the beginning of the semester. Of course, it was maybe a little of both. Anyway, this discrepancy meant that for the three weeks I was enrolled in classes I intended to drop, I was marked as “absent” from those classes. In my desire to be a disciplined subject, in fact, my junior year I had attended and completed the work for those classes, even knowing I would not stay, but by senior year, I was over it. Combined with days of school missed visiting family (and, I must admit, my high-school sweetheart who had decamped to college one state over), these absences added up to theoretically imperil my ability to graduate. This was the school district using the stick to make me behave – whatever my disdain for their standards of attendance, they said, they could withhold something that mattered to me – my diploma – in order to make me get in line. But I was a white upper-middle class student who was ranked at the top of my class and accepted to an Ivy League university – I graduated without further incident.

more likely recently, into a computer, specifically an online database. This surveillance is familiar to everyone involved. It has a clear demarcation and definition. If your body is in the specified place, at the specified time, and whoever or whatever is recording your presence matches your face to your name, with or without assistance from you, then you are present. Your whereabouts are known.

If anything goes wrong in this chain of events – you aren't present in the building, you aren't present in the room, you aren't recognized by whoever or whatever is recording attendance – you are marked as absent. This category is an intermediate state. It can be amended if you show up later – in which case you'd be marked "tardy." If not, the absent category splits into further classifications – excused and unexcused. The criteria for an absence to be excused may vary. Perhaps it requires a note from a parent. Perhaps a note from a doctor. Each school or district has its own system. If you do not have an excuse, you are considered "truant."

Traditionally, schools located students in time and space to make their participation legible to the state, what education scholar Jan Nespore (2019) poetically calls "theaters of scheduled visibility" (329). As Nespore argues, virtual schools, especially those that have asynchronous elements, fundamentally "short-circuit these relations" (325). In particular, attendance, the metric upon which much public-school funding relies, immediately becomes complicated by the very nature of the virtual environment. If this metric was meant to distinguish the act of providing supervision to students and offering them a space of learning from whether the achievement of learning actually takes place as evaluated through testing, online schools complicate the space. Attendance suggests value in presence – that students get something out of sitting in a classroom (or perhaps, in some cases, that parents get something out of guaranteed public childcare for school-age children). Online schools remove the space of the classroom and are left to grapple with the unbundling. What remains?

"Outside the Box" – Grappling with what it means to be present

Attendance was a major problem at the Lake School as they transitioned from Bluebird's management to independence. At one meeting, administrators went back and forth about their system and its implications, with Greg (E16), the IT Director, morosely noting that they currently had 30 variables and 3 different systems for documenting attendance. Contradictions ran rampant. To hear one person tell it, they defaulted to marking students as present for the full day unless someone – a teacher or a parent – said otherwise. Michelle (E9) was concerned about whether this process had been approved by the school district – she worried it might come across as fraudulent. But another claimed that students were required to watch their daily video lesson within 24 hours in order to receive credit for attending (a notable departure from the usual virtual school emphasis on flexible pacing). Were teachers expected to manually intervene and subtract minutes from attendance if students did not watch their daily video? Many were unaware they had even the ability to adjust these numbers. Could parents add back in time subtracted by teachers, or could they only further reduce the minutes a student was listed as attending? No one seemed to understand for sure.

The central conflict to which the staff returned again and again was between whether attendance should only be measured by engagement with the platform, or whether activities outside of the

set curriculum should count as part of their schooldays. “We’re not in their house” echoed throughout the meeting like a refrain. Meaning, teachers weren’t able to determine how the school day was spent, even if they knew a child wasn’t in their synchronous class or didn’t move through the online lesson. There were other things that could qualify as teaching time, such as parents taking their children to museums. Could they support learning “outside the box” within their metrics? Beth (E6) argued that as long as children were showing growth – improving on assessments of their academic performance – they should support families who didn’t want their children sitting in front of a computer all day. Yet this was fundamentally at odds with the district’s approach. There was no answer that would satisfy all parties.

Three months later, Daniel (E7) in IT told me that their system would now require parents to input whether a student had worked a full day (300 minutes), a half day (150 minutes) or not at all. He explained that this approach was a compromise, simplifying the options to address the concern that parents would not be up to monitoring their children more closely, stating that many were “illiterate” and didn’t like to do math. In addition, however, they would also automatically track student time spent on the platform and how active they were, and have the computer compare those numbers to the parents’ input. However, when the system alerted them to a mismatch, 90% of the time the discrepancy was minor, 255 minutes vs 300 minutes, which he blamed on parents “not reporting correctly.” He continued to be dissatisfied with this solution. If the internet went down, he said, he might have time to think of a better one. At the end of the day, there was no way to make the virtual system match up to the traditional definition.

In the previous chapter, I discussed teachers’ attempts to understand students’ activities despite the opacity built into the virtual environment so that they could respond effectively to students’ needs. Teachers did this to support students’ learning, but they also did it so that the school could produce appropriate data on student performance. While teachers used platform data alongside what they know about students to monitor their status, and as a prompt to facilitate conversations, that data also comes to act as a substitute metric for attendance. One way of determining attendance in an online environment is through some way of perceiving ‘reception’ of, or ‘engagement’ with, curricular materials on the school platform. Here, online schools have unique affordances (although increasingly accessible in traditional schools using digital materials). While there are no sensors in textbooks that can count the number of times a book is opened, how long it stays opened, when and how many times it is tossed aside, the digital materials can and often do keep a rough track.

There are at least two metrics possible to disaggregate here – one about time, which seems intuitively to align with the passive nature of attendance – How long do they spend “in the system”? The second is about “progress” – how ‘far’ do they get through the material? This latter one comes up against some resistance, because already, it begins to blur these lines between attendance and achievement, to draw out what it means to be present. In a brick-and-mortar school, if a student comes into the building every day, is counted as “here” by the teacher, even if they complete no work, they are still considered to have attended, the school still receives funding for the student being there. So, if you stick to time on system – some sense of parallel to time in school building – how much time is enough? Luckily, one might think, the state has you covered here, with clear-cut definitions of number of minutes of instructional time. But there are objections here too. Being offline, or not logged in to the system, is not the same as being outside

the school building, some argue. The structure of the virtual school is to be more focused on independent study, so time spent reading, working on problems on paper, having an educational experience in a museum or at an apprenticeship – this could be considered part of the school day. Of course, in traditional schools, “homework” exists and is an important element of the school’s structure yet doing your homework does not make you present in school.

Another way of tracking attendance, then, is some form of self-report. Parents may be tasked with entering attendance for their students, which allows for the inclusion of school-related activities that take place beyond the computer. If taken literally, this opens a can of worms around what counts as being in school. If a student makes lunch, does that stop the clock? What if they’re thinking about their essay? As is clear here, virtual schools upend traditional systems of taking attendance. Nespor (2019) argues that these disruptions have broad implications for school systems more generally, opening the door to increased privatization and modularization of education as a whole. But in the meantime, virtual schools continue to be out of line with dominant systems of attendance taking.

Many online schools have at least one last option for taking attendance – synchronous sessions where teachers can fall back on simply marking if a student is logged into the virtual classroom during a set time. Among her interviewees, Nespor (2019) finds that synchronous sessions are rarely used, yet she suggests that rather than being unreliable proxies, the dismal attendance in these sessions is perhaps appropriately indicative of a failure to educate. This is the concern of regulators – that rather than inciting questions about the reliability of their metrics, these disjunctions point to ominous lack of engagement among students that rightfully damn virtual schools’ approach to pedagogy.

This is the fundamental question at play – is the problem with the metric, or with the schools? Virtual schools have two primary options here – try to show they can live up to the metric as it is to prove their legitimacy or fight for the value of their alternative methods by proposing new evaluation systems that protect their unique affordances. Do they try to play the game as it is, or change the rules? For those who choose the former, because synchronous classes most neatly mirror traditional environments, they become increasingly attractive when regulators question the validity of other forms of attendance taking. The latter can be harder than it seems – despite her belief that virtual schools are transforming the very nature of public education infrastructure, Nespor points out that ECOT was forced to close when Ohio retroactively decided that only one metric of attendance was credible and that the school was on the hook for paying back the difference between the funds they had been given and those the state now believed them to have deserved. Once again, “Trying to create major change in one part of the system – a classroom, a school within a school, or even a whole school, or district – proved difficult in a broader interdependent system based on the standard grammar” (Tyack and Cuban 1995, 108).

ECOT’s failure and similar situations could be an occasion to champion the practices of attunement that teachers have developed, which succeed at returning a level of visibility to student behavior without falling back on old norms. In effect, teachers’ relational labor could take the place of the standardized metric – relying on a more local process imbued with legitimacy because of the trust placed in teachers’ professional understanding and their proximity to students’ lived experiences. But for reasons I will discuss shortly, many schools are reluctant

to invest fully in the networks of care that could offer them a way to meet accountability standards and promote active learning. Instead, they seek out alternative ways to fulfill state standards that can actively damage relational possibilities.

As I discuss further in the conclusion, the problems faced by virtual schools in determining attendance and the credible fear that discrepancies indicated real problems in learning became broadly evident in coverage of “missing” and “disappearing” students during the COVID-19 crisis. Panicked headlines reported on children who had stopped interacting with their schools without giving any indication to the school district that they were enrolling elsewhere. When the pandemic caused school buildings to shut down, the system they relied upon to produce measures of attendance was destabilized. No one was entering the building. And yet not all students were considered “missing.” The way of accounting for students changed. A report from Bellwether Education Partners estimated “as many as 3 million K-12 students were at high risk of experiencing minimal or no educational access from spring through fall 2020 as a result of the pandemic” (Korman, O’Keefe, and Repka 2020). The authors draw on various local reports discussing the percentage of students accessing online educational materials, the number of those logging in to the school platform, the amount claiming school devices, and how many students were in remote synchronous classes, then extrapolate based on demographic information and known barriers to remote school access, such as a lack of predictable high-speed internet access. This method of counting largely does not even begin to address the level of detail considered by the Lake school staff, it is largely a binary state, but one where “present” gives less information than it would in the in-person classroom. Scrambling to deal with the sudden change, schools across the country adapted these different measures to make claims about student participation, despite the discrepancies with the standard way of assessing attendance. Amidst the crisis, the numbers were considered good enough to give a rough picture of the situation. Even setting aside the issues with these measures brought up by the Lake School and ECOT, the number of students considered to be absent was widely considered horrific. Administrators at Lake School, facing imminent closure in Spring of 2020, spoke ruefully about the district’s dismal numbers of student engagement during the pandemic, comparing these to their own relatively high participation rates – in spite of the fact that they had been working out how to measure and maintain those rates for years.

Re-opening the Black Box – Questioning the Interpretation of Data

These breakdowns illustrate the fundamental insecurity of the attendance metric, and as Berman and Hirschman (2018) point out, call attention to the work that is required to produce numbers and to mobilize them to have effects. Far from surprising to any science studies scholar, the production of attendance was always contingent on a variety of practices and actors, its establishment and continuing efficacy an ongoing accomplishment. That this metric fell apart under the distributed conditions of online school brought to light its contingent nature. But for schools trying to prove themselves to charter boards or state regulators, those dependencies weren’t visible – they were merely seen not just as failing to conform, but as failing in their function of schooling.

Many teachers and school staff pushed back against the narrative that bad numbers in this context necessarily meant a bad education. As Crooks (2019) explains, data are not purely

representational but performative, producing categories of normalcy and deviance in relation to existing power relations. What it means to be present relies on numerous assumptions about how the nature of attention, of learning, and of schools. This space between what the data purports to establish and the behavior it claims to mirror creates the opportunity for what Crooks calls “interpretive resistance,” where the subjects of dataveillance contest the meanings of a given dataset. Teachers and administrators in virtual schools thus express frustration at being told their metrics suggest they are failing, offering a counter narrative to the story that they are not serving students well. In particular, they argue that they are being held to a standard that is not a fair comparison. Ruth (T16), who taught advanced classes in Language Arts and Math at the Lake School complained,

I think one big challenge is... because we're a [city] Public School, there are – obviously, we need to meet city and state requirements. Which is totally understandable, but we're ... trying to fit a square peg in a round hole, or however that goes. Not everything works for us ... it's not like I want things made easier for us. But I feel like, it's like we need an IEP, we need accommodations.

She evocatively relates the school here to students with disabilities, who can receive an “individualized education plan” that can allow for exceptions to requirements and/or for additional supportive services, such as longer time for testing. Ruth expresses the bind many teachers seemed to feel, caught between wanting to live up to the standards set by the state and simultaneously feeling that their school is distinct and special in ways that cannot be accounted for under regimes of quantification and commensurability. In this way the school itself takes on the characteristics of some parents and students who feel their children should be allowed a more “flexible” and “personalized” education than that offered by traditional schools, but who also want to remain legible to the state as achieving their goals. They want to be granted the opportunity to be different without being deviant, they want the unique qualities that enhance the services they provide recognized and rewarded, rather than forced to fit into the dominant mold. Another teacher at Lake, at a professional development meeting where teachers were discussing supposed peer institutions to benchmark themselves against that had been determined by the board, argued: “There is no model for our model other than us – there's nowhere to look because you're it. One of these [other] schools literally has kids come to the building and get online – there's much more control when the student is in the physical building.” Participants advocated for the incommensurability of the metrics they were being judged against. The metrics, they argued, simply indicated different circumstances of production, not differences in quality of education offered. Virtual schools were premised on the idea that they could accommodate this variety, but when those tasked with performing that translation were accused of falling short, they sought to challenge the kind of outputs they were supposed to produce.

Teacher Evaluation

Other metrics provoke similar crises, though perhaps none at the same scale. Teacher evaluations, in particular, require rearrangement based on the redistribution of responsibility within the online environment. In schools where teachers had little to no control over course materials, for example, they were dismayed that student test scores and course completion would be counted in their evaluation. Again, it is arguably always suspect to tie teacher evaluation

directly to student performance, but in online schools where the curriculum is provided by a third party, teachers' opportunities for intervention are especially out of sync with state expectations. At the Pelican School, Shannon (T4) described the stark inaccuracies in the curriculum she was being forced to use, as well as irrelevant material and discussion that was not age-appropriate. The curricular standard, what students were expected to learn, was "open to interpretation," yet both students and teachers were evaluated based on how well they were judged to have adhered to the vague standard. She explained:

That frustrates me, that somebody somewhere in the federal and state government, put this standard together and did not make it clear what they think the standard means ... My students' success depends on these standards so much nowadays. So that needs to be much more clear. My evaluation depends so much on these standards nowadays.

I asked if her concern was that the curriculum she had to work with was not in line with the standards on which she and her students were evaluated. She agreed, noting that "our student success ties so much into our evaluation," so if students were unsuccessful at meeting vague standards set by the state, she would be penalized, despite not having a say over how the curricular materials interpreted those standards. She went on,

Luckily, I don't have any end of course exams. I think I would probably have quit teaching if I had end of course exams. Because I do hear about that misalignment you're speaking of. The [Pelican school] curriculum teaches stuff in Algebra one way, the EOC [state administered "End of Course Test"] expects it a different way. [sigh] ... My [high school] Chemistry course, they [the curriculum development team] interpret the standards really at a high level. At pretty much college level. This is basically a ... Freshmen college Chemistry course.

Shannon was stuck implementing course material that she felt was not accurately targeted for her class. Teachers in subjects where students faced state exams were further hemmed in, torn between the packaged curriculum and the standardized tests, making them unable to effectively teach to the test or adapt their own approach to the topic. Teachers had a direct investment in student performance because their evaluation partially depended on how many students passed their course. In Shannon's case, that meant that having curricular materials that were overly difficult for the course level could mean more students would fail her course and her evaluation would suffer. This system of ranking teachers' efficacy was not only a matter of pride – teachers received merit pay based on the classification of how well they had done in a year. Shannon noted the discrepancy between what was expected of her in order to be considered compared to her students

I have to complete 80% – 80%! – that's a high number. I have to complete 80% of my students just to be considered Effective. That's not Highly Effective, that's just Effective. So wait, my students only have to make it to 60% in my classes to be successful, 70% is – 60% is passing, 70% is mastery – but I have to make it 80%? That doesn't make sense.

Here, Shannon challenges both the specific configuration of the ranking by drawing an equivalency between passing a course and being an adequate teacher. She uses the explicit logic of the evaluation system, which ties the rate of students passing the course to her efficacy, to

strengthen her argument. The misalignment raised by the circumstances of the virtual school here opened the door for her to question the validity of the system's decision-making. Shannon was explicit about her doubts of the system, not only within her school, but for education broadly. Like STS scholars, she critiqued the linking of methods meant for understanding to assessment protocols:

Data is a good thing. Measuring and figuring out correlations and how we can use this information. But then, packaging it into an evaluation system, and trying to evaluate me on – I mean, it's nonsense ... [sighs in exasperation]. All these evaluation systems. All these standards. They don't take into account the real environment that a teacher's actually going to be in. They don't take into account the over-population, the 35 students in one classroom. You can't do certain activities in over-crowded classrooms like that. And yet, you're evaluating me the same way as if I only had 15 students. Or ten students in my classroom. So many of these things just don't account for the real-world situation that teachers are in. And we're so tired by the end of the day, that we can't even do anything about it, you know?

While her overall critique was not specific to the virtual setting, Shannon's frustration with the inability of standards to "take into account the real environment" highlights the difficulties of imposing a system created for use in traditional offline schools onto a radically altered structure. Her critique also highlights the way virtual schools can attempt to profit from the arrangement or cut costs, by minimizing the expense of labor through increasing student - teacher ratios while attempting to meet the same standards. Failure to achieve that goal is then blamed on teacher efficacy. When the stability of the metrics was called into question, it threatened virtual school's ability to meet their promises.

Bad Actors / Worst Case Scenarios

There are good reasons the prevailing standards and metrics are in place, of course – primarily to avoid the very real threat of fraud and educational neglect. As mentioned earlier, many people approach claims about misalignment between established metrics and virtual schools with skepticism. Like teachers who complain about the excuses students and parents provide for not doing their work, regulators and watchdogs can understandably perceive the complaints of virtual schools about standards as an insidious form of "the dog ate my homework" – a refusal to take responsibility for their own failures. And there is ample evidence that some schools and the employees within them *do* take advantage of gaps in understanding about how to assess benchmarks in a virtual setting in order to, at the extreme end, steal thousands of dollars or more from taxpayers for non-existent services.

California is replete with such scandals, but it is far from unique. In a stunning case brought in 2019, nonprofit charter management organization A3 was found to have taken \$80 million of public funds based largely on the fraudulent enrollment of children who were in actuality receiving instruction elsewhere, who had no idea their names were being used in this scheme, as well as other deceptive tactics (Huntsberry 2019a). The CEO initially fled the country to avoid arrest, but eventually pled guilty (Taketa 2021), and all A3 schools were closed (Huntsberry 2019b), though the previous online charter school he had run remained open under a new name

(Ultican 2019). As Will Huntsberry (2019a) of *Voice of San Diego* explains in his in-depth reporting, the A3 schools did include some legitimate students and staff, but even these students were administratively moved between schools in order to collect maximum payments based on attendance. These funds were also siphoned into private bank accounts. In 2016, national CMO and virtual educational content producer K12 Inc. ran afoul of California's then Attorney General Kamala Harris when whistleblower teachers at the school raised the alarm that K12 was determining attendance by logins to the platform, requiring only that students (or someone using the student's account) be logged in for one minute in a day in order to be counted as present (Kieler 2016). According to the Attorney General's office, the company settled with the state, paying \$8.5 million over violations of "false claims, false advertising, and unfair competition laws" (Kieler 2016) and providing another "\$160 million in debt relief to the non-profit schools it manages" in California (California Department of Justice 2016). The state took exception to the company's claims of flexibility, personalization, and a number of other criteria. California's argument here was clear – shareholders in private companies should not get rich off of dollars meant to educate children, especially when those children are not being educated.

Despite the fact that California forbid for-profit charter schools at the time of these events, minimal regulation left the door open for these companies to exploit the gap between the existing measures and the phenomenon they were meant to describe. Huntsberry (2019a) notes that the A3 case "exposed a loophole in how the state awards money for a student's average daily attendance," because the CMO was able to receive payments for enrolling students in their school during the summer months, even though those days are not counted as part of the school year. California's law allowing virtual charter schools to enroll students in districts neighboring those in which they were chartered incentivized small districts to approve virtual charters in order to receive state funding for providing oversight (even when they lacked the necessary capacity to perform that role), while at the same time those schools were able to benefit from enrolling students in more heavily populated districts next door (Ultican 2019; In the Public Interest 2015).

Throughout my fieldwork, I was shocked by the consistency of these types of scandals across the country. The frequent recurrence of almost identical tales (e.g. Herron 2020; Herold 2013; Kamenetz and Korth 2020; Mitchell and Hubbard 2011) added to the bad reputation of virtual schools in some critical academic, policymaker, and popular press accounts. The refrain based on these instances was that virtual schools could not be trusted and were inherently corrupt entities seeking to steal from the state, while children and families suffered. I witnessed this dynamic arise when observing school board meetings held by a city that was determining whether to allow a virtual school to take over the charter of a long-standing alternative school that was in financial trouble. Local public-school teachers in the city referred to the enterprise as trying to "to carry out a scam" and "fraudulently enroll students," arguing, "We know online charters have some of the worst reputation of any charters." The American Federation of Teachers union (2017) bolstered and popularized this rhetoric with a report titled "A Virtual Failure: K12 Inc. Puts Cash over Kids." Tom (C2), a local activist I spoke with who had independently researched the company and fed what he found to school board members in order to strengthen opposition to the virtual school, told me the company was "totally in it for the money," with "nothing to commend it." He shared that he expected the state's new governor to implement a moratorium on new online schools, connecting the specific problems of this particular organization to a broader

claim about virtual schools generally. While many states have implemented moratoria or bans on virtual charter schools, particularly following public controversies, the companies behind many virtual schools have formidable political power to prevent or oppose such moves – one journalist estimated in 2016 that K12 Inc. had spent over \$10 million on lobbying in 21 states over the course of a decade (Prothero 2016).

Complicating the narrative around virtual schools was a broader distrust for charter schools and privatization, both of which virtual schools heavily overlap with. Tom explained that he doesn't see himself primarily as an advocate against virtual charter schools, but as “an advocate for proven methods of instruction and the prudent expenditure of education dollars.” The Network for Public Education has come up with a clever tagline that exemplifies this trend, “[Another Day, Another Charter School Scandal](#),” peppered with stories of schools that misappropriated funds or lied about enrollment and services. Facing these pressures, some mainstream charter school advocacy organizations have attempted to distance themselves from virtual charter schools (Bavaria 2016). Many critics and policymakers have done so far as to call for a moratorium or outright ban on virtual schools (Molnar et al. 2019; In the Public Interest 2015; Cousins 2014). There are twin perils here – one in the theft of resources, and a second in the possibility that children enrolled in virtual schools are falling through the cracks – not being provided their right to an education, and perhaps even worse, abused or neglected by families without the safety net of schooling as a mechanism for state oversight of familial care (see Baron, Goldstein, and Wallace 2020). Scott (2009) also discusses the danger of charters not representing the communities they serve, an issue potentially exacerbated by virtual schools expanded geographic boundaries.

Teachers and parents were aware of and influenced by these public perceptions. William (G9), a college professor who trained teachers and worked with superintendents and principals in public schools, noted that upon finding out his kids were in online schools, his public-school colleagues “kind of assume that means that we're antigovernment or anti school or anti-intellectualism or whatever.” Skepticism about homeschooling, charter schools, and for-profit educational technology companies combined to place virtual schools under a cloud of suspicion. Natalie (E10), who had worked in local school districts for seven years before going to Eagle Academy, was initially skeptical of the prospect:

Originally, I was turned off to the idea of an online school. Because I have spent the last seven years in local school districts and felt that sense of pride of being in a local school district, and so charter schools set me off. That was a turnoff, and then online was a turnoff because I thought, well, that can't be as professional. That can't be as comprehensive.

Doubts about virtual schools ran rampant, calling into question the legitimacy of their offerings. For William, Natalie, and other teachers and families at Eagle Academy, those concerns were put to rest by witnessing the depth of teachers' engagement – the networks of care they built. Eagle Academy's status as a non-profit charter school, unaffiliated with large educational management organization, that developed its own curriculum likely also helped distinguish it from some of its virtual peers. As Barbara (E11) pointed out upon reviewing excerpts of this section, scholarly literature has been mixed in its assessment of virtual settings for learning overall (Means et al.

2009; Molnar et al. 2021). The discussion above indicates that often what critics are primarily concerned about is privatization and quality, not the inherent instructional medium. Yet all virtual schools suffer from some reputational damage based on the bad behavior of prominent players, with general opinion often failing to differentiate based on specifics.

While I spoke with teachers who worked at schools that had come under scrutiny from regulators, no one shared with me quite the explicit horror stories laid out in the popular press. Yet teachers did echo concerns about the way incentive structures could cause problematic behavior in reporting. This was true even in cases where there was no direct profit incentive and schools were state run. Anthony (T3), formerly at Pelican School, told me about the change over the years towards explicitly tying credit goals – the number of credits a teacher's *students* had to complete – to teacher assessment, and how this perverted grading by pushing teachers to go to extraordinary and sometimes illicit lengths to allow a certain number of students to pass their classes. He explained:

When I started – and I got there at year five – there was like, 75 people there, and as we speak now there's like 1500, so, big growth. So, when I first joined, there was no credit goal. You just taught your kids ... But then they started to impose credit goals. During that academic year, I needed to earn 90 credits, or 120, or 150, or 300, or what – so that just kept getting cranked up. And then they changed it – it was part of our formal evaluation – did you meet your credit goal – and then maybe four or five years ago they put an end to that.

People were doing things they shouldn't have been doing to meet their credit goal. And it was kind of crazy, I mean it was like a telethon. On the last day of the financial year, where they were sending out emails every hour on the hour ... because there was a big organizational goal you were supposed to meet. It got a little ridiculous. And it was probably the right move to deemphasize that piece ... first I had to have 90 credits, and then at some point it was 150, I – I will tell you that when they stopped holding me accountable is the year I stopped meeting it.

It is debatable to what extent this story represents an actual problem or is the system working as intended by motivating teachers to do anything they can to support their students. But clearly here teachers had reasons to pass students who may not have mastered – or even perhaps interfaced with – much of the course content. Kate (T1), also a former teacher at Pelican School, who had spoken passionately about the deep pedagogical relationships facilitated during her early years at the school, confided, “We’ve become – and I don’t know if you’ve heard this term in reference to any virtual school – we’ve become a credit mill, or a credit factory. And that is what most teachers would admit to, if they could [laughs] without fear of losing their jobs.” Facing pressure to meet accountability goals without additional resources, schools were pushed to churn out credits even in cases where teachers did not feel students had earned them.

Outside of actively trying to game the system, some teachers did repeatedly reference a more mundane but core problem – again, that the metrics might be right. That low attendance, limited participation, and plagiarism or parental completion of student work were serious issues in their classrooms. Even as they expressed distress over being held to the same standards as brick-and-

mortar schools, or objected to the structure of the metrics themselves, teachers would also emphasize that some children at their schools were not thriving, and that this proportion might be higher than it was for traditional schools. Many teachers shared similar experiences to this one that Dina (T10) described, made possible by the Lake School's combination of once a week in-person meeting alongside online instruction: "I definitely get to *verify* a lot of things that I'm seeing or not seeing on class connect. A lot of times, learning coaches interfere, and either I know, or I don't know. And then I see that, oh, this student can't really do anything. It looks like the student can do a lot in Class Connect." Subtly, she points to the issue of parents or other family members completing student work or being heavily involved in its production. Gabe (S2) shared a humorous indicator of teachers' awareness of and frustration with concerns about students not working independently:

Gabe: Well, at the end of a lesson they say, 'This is your work. Do not ask your mom. Do not ask your dad. Do not ask your dog.' Like why can't I ask my dog? [Chuckles] I don't have a dog.

Anne: A dog probably wouldn't give you very helpful answers.

Gabe: Yeah, I want to ask my dog. I want to see what he says. The one that I don't have.

Anne: [Laughs] Is it like an honor code that they're asking you not to cheat?

Gabe: Yeah.

These problems are exactly what the metrics and standards are meant to identify, intervene on, and/or avoid – catching problems occurring in schools before they worsen. But teachers in virtual schools were not provided with reliable ways of addressing the harms themselves, while being held accountable for them. This created an ongoing tension virtual schools would have to solve.

The possibility of more direct conspiracy did rear its head in my fieldwork, however indirectly. At the Lake School, the new CEO brought on after the school decided to become independent from a national CMO faced accusations of financial mismanagement that prompted an audit, although the details remained obscure. Parents and teachers at the school expressed concern in interviews with me, interviews with the press, and at school board meetings that friends of the administration were being brought on as high-salary administrators or contractors and that funds that they felt should be spent on instructional resources were diverted to these beneficiaries of nepotism. Parents researched potential new school board members and when one was shown to have been in the same sorority as the Interim CEO, they were incensed and demanded that she reveal her true interests.¹⁹ I didn't research these claims, but there were few instances where they appeared to be unique to the school's virtual structure. However, the public imaginary of virtual schools as uniquely or particularly inclined to corruption seemed to partially fuel at least the outside understanding of the case.

Good Actors, Best Case scenarios

¹⁹ I didn't realize until the final interview I conducted at the school that this paranoia even seeped into the perception of me as a researcher – when I asked the teacher I was speaking with if he had any questions before we got started, he asked how I knew the administration and when I had first met them.

On the other hand, the metrics could fail while the underlying values they were meant to measure and ensure succeeded. These were the cases where virtual schools were unfairly maligned by the data they produced, where being out of step with the standards was, they argued, actually to the benefit of students and families. After all, many students turned to virtual schools *because* of their looser fit between what was required and what was possible.

A student who is not “attending” regularly might be the one who can complete the required work quickly – allowing them to either work ahead or catch up in a short period of time. This might be beneficial for those facing care, religious, and professional responsibilities, those with chronic illnesses, and those who simply felt there were better uses of their time than the busy work of schooling. As discussed in the “Exit Strategies” chapter, this is one of the main advantages touted by virtual school advocates and others who promote “personalized” learning.

The student may instead be receiving alternate instruction and focusing on work outside the bounds of the school curriculum. This was encompassed in the debates around attendance where Beth (E6) argued persuasively that parents might be taking their children to museums or coordinating other complementary educational activities during time not logged as within the school system. Some virtual and hybrid schools are even explicitly structured on this model – minimizing time spent completing standardized requirements in order to open up time for alternative pursuits.

As referenced in Dr. Arthur’s discussion at the professional development meeting, parents and students might also be “opting out” or “refusing” certain standardized requirements like testing. One optimistic reading of these refusals would be parents working to shield their children from unnecessary anxiety and tracking. Rather than focusing on rote memorization to improve performance for standardized testing, they could be pursuing passions and unquantified learning. Allison (G2) at the Pelican School explained,

When I would ask the kids what they did at school for the day [when they were in traditional schools], it was stuff for SST²⁰ [state standardized testing]. That was the comment, ‘Everything was for SST, Mom,’ ... I was like, ‘What did you guys learn today? What did you do?’ ‘Stuff for SST.’ They would get sheets of paper from the time they started the schoolyear, and it would be packets of just SST, SST, SST, over and over and over again.

When we would ask the kids at dinner when they were homeschooled [enrolled in virtual school], [Son]’s talking about Mesopotamia, the Mayan ruins and [Daughter]’s excited about what she learned in history class. They’re able to talk about what they were learning and actually remembered what they were learning instead of, oh, we just studied – we just did work sheets for the standardized test. For that part it’s been amazing to see ... the education level, it challenges them a little bit more.

What counts as a good scenario here of course depends on your perspective, theory of education, and beliefs about schooling. For many parents and students, the central benefit of virtual schools

20. I have replaced the actual initials used to signify the state test with ‘SST’ for ‘State Standardized Test’ to maintain the feeling of this quote without disclosing the participant location.

was a greater sense of freedom and the removal of the restrictions of time and space required by traditional school arrangements. These scenarios also highlight the ways in which virtual schools provide an opportunity for families to align with standards and meet the metrics in ways they would otherwise be unable to achieve. Being able to “play hooky” and get away with it – to be less likely to have authorities show up at your doorstep – can be a feature, not a bug for those who understand schooling in its dominant form as fundamentally harmful. As discussed in the motivations chapter, teachers accused parents of “hiding” their children in virtual schools in order to escape stigmatizing disability diagnoses. Teachers might see this as a loss – a missed chance to gain needed supports and helpful interventions. But as discussed earlier, it could also be a gain for those who see the system of special education as one that produces their children as pathological anomalies. This can also be understood sometimes as a benefit to the broader public school system while the virtual school takes the fall, as when students are pushed out of traditional schools and into online programs due to disability, disciplinary problems, or bullying. These systems can then draw on the labor of families, as described in the previous chapter, for example instead of providing appropriate supports and accommodations for students with disabilities, and ‘clean’ their own books and numbers while simultaneously chiding virtual schools for not doing the same. Punishing schools for low scores, rather than providing additional resources and support, incentivizes schools to try to remove low scoring students. Here, the ‘best case’ matches the ‘worst case’ — that the metrics are right that something is wrong, and the question is only who is responsible for fixing that problem, and how.

Efforts to Make Match and Consequences

He tells me it’s a hybrid school,
but they keep trying to turn it into a traditional school.
— Fieldnotes, teacher appreciation party, Lake School Apr 26 ’19

Faced with scrutiny from the exposure of bad actors, virtual schools may choose to implement strategies that will allow them to better achieve high scores on traditional metrics and to meet general standards, whether or not these practices also produce the underlying intended effects or contradict their founding motives. As described in the previous chapter, one way of achieving these goals is to emphasize relational labor, allowing teachers to implement strategies to recuperate visibility on the terms of the participants so that they can practice attunement. Yet relying on attunement alone, in the current conditions of virtual schools, was not enough, because participants were often not given the supports they needed to effectively perform this work. Relational labor was resource intensive. Hochschild (2003) explains that when an industry faces a “speed-up” where workers are expected to do more work in the same amount of time, this “makes it harder to handle people personally,” stripping away the opportunities for employees to perform emotional labor in the rush to narrow margins (147). Connecting with students and their families on a genuine emotional level, communicating with them about their lives, and working directly to adapt instruction to their needs took an enormous amount of time and energy. As noted, teachers could only perform these tasks for some students when they did not have to do them with others. This meant that as long as virtual schools lacked additional resources, they relied upon most family members being willing to do the heavy lifting at home, unpaid. As long as they had a critical mass of students who were relatively self-sufficient or able to complete their work with the support of their families, teachers could dedicate their resources to the

remainder of students who required more in-depth interactions. When that calculus shifted, they could no longer keep up with their translation efforts, and the metrics began to falter. Under these conditions, schools turned to exerting more and more control over both teachers and students, despite the fact that this undercut their premises of freedom and autonomy.

Chasing Data

One major way schools accomplished this is by what two different teachers, in different states, working at different schools, referred to as “chasing data.” This involves a shift from the use of personal communication as a practice of care to an effort to produce legible interactions between the schools and students. These interactions themselves become “data” that the school can point to in order to argue they are proactively addressing areas of concern. Legislators may even mandate this practice - as of 2015, “Thirteen states have provisions specifying some degree of communication between teachers, students, and parents throughout the school year” (Pazhouh, Lake, and Miller 2015, 8). Even in circumstances where regular communication is to state policy, schools may seize upon it as an opportunity to prove themselves. To achieve this, some schools have taken the option to make phone calls out of teachers’ hands, mandating calls in response to certain circumstances or routines. Teachers might, for example, be expected to call the parents or guardians of all students in their ‘homeroom’ on a monthly basis. Or teachers might be required to call parents in response to particular events, such as a certain number of absences or missed assignments, a period of inactivity in the school platform, or low scores. Under these conditions, teachers are generally required to document these calls, and the practice of making calls itself becomes a standard that is used in teacher evaluations. At the Pelican School, for a period of time, this system was automated, with an algorithmically generated prioritized list appearing to teachers of who they needed to call.

Like other quantitative metrics in education, such a structure can incentivize completion of a certain number of calls over the content or quality of the interactions. While calls in themselves can be integral to developing in-depth relationships with families and displaying attention and care, when they become foremost a signal of labor on behalf of the school, their meaning is perverted.

My first interview participant, Kate (T1), eloquently explained the dynamic at play. She was the one who had raved about the opportunity of virtual schools to build deep connections between teachers and families, who was so devoted to her students that several had stayed in touch for years and even visited her when she moved out of state. But she found that over the years, her school changed to more granular control over teacher-parent interactions, turning what was an organic move as part of a holistic approach to connecting with students into an automated task. In her own words:

We were always chasing numbers. It was always data, data, data pushed in our face. And we forgot about the quality of instruction ... [the system] reported data to our managers, and their managers, and all the way up. So, they could just pull data and say, on Thursday [teacher] made 27 phone calls. Or, from Tuesday to today, [teacher] has 15 overdue contacts. They expected that we were going to make contact with every student and every parent at least once a month via phone...

The problem is, as you can imagine, a lot of them don't call back. Like, they just don't care, they don't do their work, they don't call back. And we were penalized for that. So, that was the chasing data was like, [harsh voice], 'You have ten non-workers! Get them to work right now!' Well, maybe one of them is not working because her mom has cancer. Maybe one of them is not working because they're on vacation and I know that and I've documented that. But if I don't call those kids anyway, my marks go down...

When you couldn't get ahold of someone, it was the same thing, at that time we actually were graded on our monthly contacts. So, teachers expressed a lot of frustration, saying, 'we've called and we've called and we've called, and these parents just don't call back.' Finally, administration said, OK, we will consider a text – a two-way text – or a three-way – two- or three-way email – as a monthly contact. But only with the parent, not with the student. So that helped a little bit because a lot of parents love to text. But the kids, we still had to talk to. And if the kids didn't want to talk to you – and their parents weren't willing to force them to – you'd be penalized! ...

Here, we see the loss of the very flexibility of modality that sometimes allowed teachers to connect with students who were otherwise uncommunicative. Teachers in this situation are forced to ignore the preferences of families and their knowledge of student lives. They are no longer given the option to demonstrate their humanity and responsiveness. If teachers who are able to practice attunement and foreground relational labor take on certain characteristics similar to the flight attendants, with "the smile and the soft questioning voice," in this situation, they become more like the bill collectors – "asked to use a grimace and the raised voice of command" (Hochschild 2003, 137). Kate continued to describe the mechanistic approach to teaching promoted by the automated system:

The computer calculated who it thought needed a phone call. And we spent the whole day chasing those numbers. If a student was at a 1, it meant they were very low priority, you did not need to call them. But then, you know, within an hour, they might shoot up to an 80, and it's like, oh my gosh, I've got to call this kid or my evaluation's going to suffer.

The ranking system was based on several factors. One factor was seven days without work. If the student had gone seven days without work, they would automatically shoot up in [system]. Other factors could have been, the student monthly call required, or the parent monthly call required. The good thing about it is, [the system] reset and went back to one if you attempted a call. But we were still forced through the monthly call requirement – which they said didn't count but we know it did – we still had to talk to the families. So, you could call them, but [system] I think gave you 72 hours of a grace period – so three days later, if you call them and they don't answer, [the system] tells you to call again. And call again. And call again.

Low grades sometimes would influence the system. You know, if the kid had a 58, and weeks behind pace. We would say that students could be involved from anywhere, whenever they wanted, and move as quickly or slowly as they wanted in whatever order – and parents would say, 'Well, yeah, of course I haven't worked in a month, you told us

it's any pace! We can do this however we want.' Well, that's actually not true. We required students to finish the course in 32 weeks. And if they didn't, their [rank in the system] would skyrocket, and we'd have to call, and bug them, and bug them, and bug them.

And it seems like, 'well, you'd probably be calling those students anyway?' You would. But it was the fact that the number got so high. And it turned red. And it was always in our face. It just created anxiety. All we could care about was – keep the number low, keep the number low. Call students as fast as you can. Get off the phone with them as fast as you can. Move on, move on, move. Get them in, get them out. So that you can have room for someone else to come in.

In all my interviews and observations with those at online and hybrid schools, this was one of only two times a participant specifically pointed to the existence of an algorithm, or automated decision-making system, in their workplace environment (the other being Daniel at the Lake School saying they had “AI” flagging discrepancies between attendance a parent input and time active on the platform). The system removed teachers’ discretion and ignored the tacit knowledge they held about families and their circumstances. This system was so reviled that the school actually eventually withdrew both the algorithmic management and the requirement itself. However, other schools independently began to establish similar norms, suggesting the staying power of the impulse if not the precise implementation of such policies.

The push to make contact with students and families, to manufacture traceable interactions that could replace traditional attendance or make up for lagging performance, could crowd out all other elements of the teaching experience. Crooks (2019) highlights how the targets of this kind of dataveillance sometimes develop “means of satisfying the demands of dataveillance while resisting the control these measures sought to effect...by making a show of compliance while exploiting the ambiguity of the representational relationship between digital data and behavior” (495), and indeed, some teachers admitted to marking a text or email as a phone call in order to satisfy system requirements while following their sense of what would be most effective. But these strategies took a toll. While full compliance removed their chance to actually achieve the behaviors supposedly encouraged by the deployment of the metric, even a performance to meet demands generated stress and uncertainty. Anthony (T3), a social studies teacher formerly at the Pelican School explained the tenuous balance he struck to try to align with his values:

I had like 150 kids, and I looked at it this way – I have to do two things. One is, I've got to grade papers, and the other thing is I have to make phone calls. Everything else was kind of extraneous. I was not going to exert tremendous time and effort on those things unless I had to ... in terms of the phone calls, they were monitoring that. And literally, there was a column that would turn red if I hadn't spoken to you in 30 days. I was not very good at that. My call data was never what my colleagues' was ... And then there was like data things you could fudge. Like with the monthly call. I was always prepared to say [chuckles], uh, you know, it was a missed key, I meant to check this box, but I checked that box instead. That would be an ethical thing on my side, but it was a communication thing as opposed to an academic thing. And I guess that's where I would draw a dividing line. I would – the communication thing was down here, the academic

stuff was up here ... I'm going to do the academic stuff, and the communications stuff was secondary to me.

Because chasing data was at odds with practicing attunement, teachers would find ways to avoid the demands to get their numbers up in favor of focusing on instruction. This temporarily provided reprieve. But the push to meet the call quota continued to weigh heavily on teachers who felt this approach was fundamentally opposed to their role in the school. Vanessa (T5) exclaimed in exasperation:

Every call that comes in is logged. And I have to respond to it within 24 hours ... You know, my degrees are all in science, and I have a passion for it, and I love it. My degrees are not in callcentering!

Since what can be immediately quantified is not the teacher-student-family bond but the points of contact, these practices imperil the efficacy of genuine connections. At the Lake School, where institutional survival depended on improving metrics, Dina (T10) felt the emotional impact of trying to juice her stats:

It's a constant struggle. It really is. There's just been a lot of [pause] ... I don't know, enforcement of like, reach out, reach out, reach out ... A constant stress or a pressure of reaching out to families and getting them to come.

As Pine and Bossen (2020) argue in the context of health-care, when this kind of data production work is driven primarily by one over-arching goal – to make money for the organization – other values can fall by the wayside. Rather than working with students and their families to determine relevant information that can assist with their education, teachers here are required to document their interactions to pull students and their families under surveillance. Nespor (2019) also found that teachers referenced “chasing” kids down via calls, emails, and persistent efforts to contact students and persuade them to engage with the system. It's possible that the shift from “chasing kids” in her interviews to “chasing data” in mine is reflective of a broader emphasis on metrics and standards in the wake of high-profile accountability scandals among virtual schools.

Consequences – Push Out

Schools also look to boost their numbers by removing students who are bringing down their averages – or at least, they wish they could. Daniel (E7), one of the IT staff at the Lake School whose wife was a teacher at the school, told me while I was sitting in the teacher's lounge,

This needs to not be a homeschool. I'm sick and tired of that. I wish they could set up a provision so I could monitor what the learning coaches are doing, and if they're not doing what they're supposed to ... [clicks tongue to suggest cutting them off] ... You can't drop your kid off and then go to work. That's not the deal you signed with us.

Perhaps echoing and embedding the dominant discourses of the state that was threatening their own existence, there was a common narrative at the Lake School that there was “no accountability” or “no consequences” for parents and students. Several teachers at this school

lamented being unable to expel students, arguing that these students were not well suited for the virtual/hybrid learning environment and should be returned to brick-and-mortar schools. Nicole (E5) spoke starkly of her desire for this policy and her belief in some students' deficiencies: "Until we can be selective in our students ... this is the mentality. It's crazy. Sickening, sad."

This message resonated elsewhere as well, with teachers and staff consistently echoing that virtual schools 'worked' for some students and families, but not others. This is a widely accepted narrative. In some states, like Virginia, students are only allowed to enroll in virtual schools if they can demonstrate a track record of good grades and test scores. Many teachers in other states expressed longing for such policies, emphasizing that a sub-set of students were "bringing down" their school. It is worth noting that while schools are funded on a per-pupil basis, as discussed previously, under the threat of closure or sanction, there is financial incentive for shareholders in for-profit charter management organizations to promote selective enrollment (Tilson 2013). Horsford, Scott, and Anderson (2018) point out that under a market-based education system, many school leaders attempt to "recruit 'low maintenance' students ... to improve test scores" while "schools that are skilled at serving ... more resource-intensive students are penalized" (6). EdTech companies are also quick to place limits on the intended users of their products. As Burch and Good (2014) note, "the very industry which claims that its software will address the opportunity gap has on occasion identified low-income students as undeserving of technology" (33). Teachers absorb and respond to these pressures.

Often, it was unclear what about a brick-and-mortar environment would benefit these students and families. The primary tool such schools seemed to have that others lacked was that of expulsion, though perhaps some schools had other supportive services in place that these teachers felt would benefit students, including in particular constant physical surveillance from teachers. Hearing these requests, I was eerily reminded of Sarah's situation (discussed in an earlier chapter), being pushed out of traditional schools and told they could not accommodate her. I thought of the rumors I had heard that certain school districts would push parents whose students had repeated disciplinary infractions, or who required costly accommodations, towards virtual schools so that they would be "off the books" of the district – no longer their problem. If virtual schools pushed out the very students who had turned to them as a final resort, where would they go? Ewing (2018) starkly explains: "neoliberalism pushes schools to focus on 'winners,' those exceptional students who will be successful by those limited metrics, and to abandon students who might lead to inefficiencies" (123). Students so abandoned turned to virtual schools only to find themselves once again cast out. Hamraie (2017) documents a similar turn in Universal Design, where marketing "left behind the politicized claims of disability rights advocates for inclusion in public life in favor of appealing to a more normate, mainstream consumers' desire for freedom or more usable consumer products" (211). While proponents of virtual schools emphasized their potential for students excluded from traditional in-person institutions, the students these schools end up wanting are those who most fit the standard they claim to remove.

For teachers who were evaluated based on student performance and facing increasingly insistent demands to make students perform in situations they felt were hopeless, their desperation resulted from a combination of genuine concern for student wellbeing and the longing to make such students no longer their problem. When virtual schools worked well, they were grounded in

collaborations between teachers and students and families. When someone had to take the fall, though, these teachers became divorced from a responsibility to gain student and family trust and develop conditions for their learning to flourish.

Breeding Hostility

Efforts by schools to increase student performance in order to be accountable to districts put cascading pressure on administrators, teachers, students, and families. While these interactions remained a collaboration, they were now an adversarial one. Blame and hostility proliferated. Being “chased” – whether that meant chased *down*, hunted, found out, accosted, or chased *out*, expelled – put teachers and parents, in particular, at odds.

Teachers faced real hostility from families that could provoke a defensive reaction. Vanessa (T5), who had adamantly exclaimed that she was not trained for “call centering” and would rather be focused on teaching, missed our initial call time and told me the next day it was because she had just been screamed at by a parent and had to emotionally recover. This wasn’t the first time this had happened. She said,

I had at least once a week I get cussed out by a parent. And it’s not necessarily because – I guess not because of anything that I’ve done. But it’s more or less like, OK, your child hasn’t worked, what do you want me to do? I can’t do the work for them.

Under strain, teachers reach a breaking point, no longer able to summon good feelings towards difficult workplace interactions or use their personal connection to override the frictions of official policies. Hochschild (2003) astutely notes that “a company speed-up makes personal service impossible to deliver because the individual’s personal self is too thinly parceled out to meet the demands made on it” (133). These moves to increase test scores at all costs broke down the relationships teachers had or could have with parents. As Marion (T13), who had left the Lake School a few months before I spoke with her told me, “I know some parents get to know phone numbers, [laughs] so they would block some numbers.” Marion had been able to take this kind resistance more or less in stride and attributed the fact that this had never happened to *her* to her ability to craft caring relationships with families. But the pressure teachers faced from administrators to complete calls made the practice more high stakes and chipped away at teachers’ ability laugh off missed connections or angry responses.

In the (in-person) teachers’ lounge at the Lake School during lunch, a common pastime was complaining about students and their families. One teacher told me that when she first started here, she had been away from teaching for a while and remembered, oh, yes, this is what a teachers’ lounge is like, “a place to talk about students.” As teachers came in and out, making and eating lunch, drinking coffee, with occasional bursts of static or voices on walky-talkies, I recorded snippets of conversations such as:

[*Discussing a student whose grandmother called*] ‘I haven’t seen her since January, so...’
‘I do love it when they lie!’
‘I had [student] tell me he’s really been hitting it hard – is that code for not working at all?’

[student] ‘kept saying, I’m hungry, I’m hungry’ ‘
‘If I had good parents [*of the students in their class*], I’d call them, even if I had bad
parents...’
[*Sarcastically mocking student excuses for not coming to school*] ‘It’s raining, can’t go
outside’
‘I had some kids with runny noses yesterday...’ [*Another teacher objects to this, saying,
‘no, if there’s yellow, they go home,’ suggesting that a runny nose, as a sign of infection,
might actually be a legitimate excuse to stay away from the school building*]
‘I just want to say to the mom, why are you here?’

“I had my 3rd parent tell me their child’s not coming back for the rest of the year because
they can’t get here ... housing situation, I think they’re homeless.”

“Your daughter did 30 minutes of work this week – well, we don’t have internet. ...
Nothing is her fault, or her daughter’s fault. [She] blames everything on [school getting
off to a] late start, class connect links - no other student has issues with links. [She] can’t
figure anything out, doesn’t like [the curriculum platform]. [She claimed] ‘well and I
know her grades have really gone down with new curriculum – at least 80% of your
students’ grades have gone down with new curriculum’ How would she know? She’s
working fulltime, I sympathize with her. Obviously, there’s bad stuff going on, they don’t
have a house – then maybe this isn’t the right place.”

[They mention a student whose sibling was murdered, say they understand the student not
working right now, but...] “Why do we then not say you must remove your student from
the school?”

“What’s [x’s] excuse?
[x] doesn’t have a car
Take the fucking train!
Doesn’t want to take public transit
Then you shouldn’t live in [the city]
[another] student doesn’t want to take public transit by themselves
- I appreciate that, but then this isn’t the right school.
I want to stay here if I can but I’m tired of letting them walk all over us.”

I found some of these comments disturbing. But while it would be wrong to entirely discount these portrayals merely as “locker room talk,” since it’s clear such ways of framing students and their families influenced how teachers approached those in their care, teachers also used this kind of banter as a way to legitimize setting boundaries on their labor and to distance themselves from the bind they were put in by the layered structures of school accountability. This venting of frustration can be a form of what Hochschild (2003) calls “antipayment” – “when a person not only refuses to work up the expected feelings, or even plausible displays of them, but makes no effort to prevent opposing feelings from showing” (81). Pugh (2015) explains that in a climate of economic uncertainty, some people will “work to shrink their obligations to others...convincing themselves that they or others do not *really* require as much; they deploy invented phrases and language that redefine their circles of commitment...they find within themselves the capacity,

feeling, and justification for defying” (80). These communications, in this light, become a method for teachers to convince themselves and each other that it is acceptable to withdraw care when they have been placed in positions where providing that care feels impossible. For teachers, often cast as loving caregivers, to express callousness becomes a form of protest against the conditions of their work environment that prevent them from fulfilling that role.

It’s possible that this kind of blowing off steam would happen between teachers no matter what, but it was clearly exacerbated by the high-stakes nature of the accountability project, which meant that teachers were in trouble if they couldn’t get students to perform well enough. Teachers who were here complaining about the excuses given by parents excuse the poor showing attributed to *them* by referencing the same extenuating circumstances. Dr. Murray (E15), the CEO of the Lake School would often explicitly flip this narrative back onto teachers, suggesting that *they* were the ones who refused to be held accountable for their actions.²¹ She argued that while there were, as widely cited among the staff, students and parents “hiding” by being in the virtual school environment, in her opinion there were also “educators and teachers hiding in the schools.” Ironically, this adversarial relationship between families and teachers (and between teachers and administrators) probably undermined the very thing it tried to encourage, as fractured trust and mounting frustration did little to create a supportive learning environment where students could flourish.

While one could judge teachers harshly for their likely biased and sometimes cruel assessments of children and their families, it is also clear that these teachers are pushed into structural positions where they are incentivized to blame students and their families and seek their removal. Without fully excusing teacher responses, this animosity is crafted at least in part from the burden teachers face due to a focus on evaluation through high stakes testing and other quantitative performance measures. Within a system that relentlessly focuses on output, teacher exhaustion with students and their search for other sources of blame makes some sense.

Taming Time – Going Synchronous and Policing Pacing

Another way virtual schools shift to become legible in the eyes of the state is through an increased emphasis on “live lessons,” synchronous calls that can mimic the traditional classroom’s sense of co-presence and allow for an easier way of making the case for attendance in the remote environment. Participants at multiple schools mentioned a change throughout their time at their organizations towards increased emphasis on live lessons. In some cases, this element went from being “optional” to “mandatory,” though what that meant in practice (as evidenced through the effort expended in corralling students into engagement) remained ambiguous. As Lisa (G4) remembered,

They went from us attending the class being very, very, optional to being very mandatory ... It got a little harder all of the time. And I know that presented some heartburn for some families. If they were using it for other reasons that they needed to be flexible.

²¹ In reviewing excerpts of this dissertation, Dr. Murray noted that she did not recall making these comments.

Of course, by requiring students and teachers to be online at particular times of day, these shifts impinge upon the self-proclaimed flexibility of online classrooms. Rhea (G11) noted that in choosing between Bluebird West and Cardinal Pacific for her daughter Hailey (S3), they chose the latter because Bluebird West had a reputation of “be there or fail” while Cardinal Pacific allowed students to coordinate alternate meeting times with their teachers. As she was explaining the limitations of live lessons, the typically quiet Hailey interjected “waste of time,” underscoring the point that these synchronous group classes were the kind of thing they were trying to get away from by enrolling in virtual school. While theoretically one could join from ‘anywhere,’ realistically, participation in live lessons involved having a stable computer set-up and high-speed internet connection.

Again, reliance on live lessons had the potential to encompass two goals at once – to provide a trackable, standardized measure of student participation and teacher labor and as a pedagogical technique with myriad benefits enabled by its affordances. Synchronous interaction allowed students to ask questions at the point of difficulty, allowed teachers to iterate on their methods in response to students, and crucially facilitated social learning as students access one another’s questions and benefit from the teacher’s responses to the class. As Dina mentioned about having students come into the learning center, synchronous dialogue is also a check against plagiarism, as it becomes harder (though not impossible!) to have someone else stand in for you during live conversation. Tellingly, Ivy High School, a high-ranking private institution, required constant participation in synchronous lessons, structuring their entire curriculum around interactive discussion. Schools thus recognized both that attendance in live lessons provided a convenient metric of student engagement *and* turned to these practices as effective academic interventions that are additionally less expensive than 1:1 tutoring. Several schools also tightened the deadlines for completing assignments. Here, virtual schools follow a recurring pattern of digitization where tech first disrupts a long-standing structure, only to return to established means of practice when faced with predictable consequences of that dismantlement (Sims 2017). Yet this means the same people who were marginalized by the traditional way of doing things may be once again pushed out by these techniques. The challenge for virtual schools is in finding a balance that allows them to reap the benefits of synchronous instruction without incurring the costs. Some piece of this is accomplished through the parental support detailed in the previous chapter. Another may be to find ways to encourage the appearance of attendance without implementing an apparatus to facilitate its success.

Worker Power

There was another reason that many schools decided to pursue alternative strategies beyond investing in teacher’s attunement work. In addition to supporting student learning and the continuation and expansion of virtual schools, these recuperated practices of attunement also provided leverage for teachers against deskilling, helping them to maintain their professional autonomy. In the context of teachers beginning to organize their workplaces in pursuit of collective bargaining, this could present a threat to administrators. In order to better understand this context, we need to explore how some virtual school teachers conceptualized their working conditions and began to agitate for change.

Discontent

Even though teachers often turned to virtual schools to better manage their responsibilities or to achieve greater autonomy in their daily work, many struggled immensely with the working conditions they faced. Teachers referenced classic grievances across labor sectors – low wages, long hours, harassment and abuse, and capricious and vindictive decision making about job roles, promotions, and performance reviews. They also expressed concern when they felt the integrity of their educational mission was being compromised by large class sizes and demands for extended classroom hours that infringed on their ability to conduct lesson planning, work with students individually, grade, and collaborate with their peers. Although complaints about work rarely centered on the virtual nature of the job, digitization often enabled these elements of their workplace.

Virtual schools largely paid teachers less than their brick-and-mortar peers. At the Lake School, teachers' topic of conversation in the lounge would frequently turn to plaintively comparing their salaries with those of teachers in the local public school district. One talkative teacher said, "I try not to ever look at different jobs. It's very upsetting. Glassdoor is always emailing me something, how much they make, how easy it is to apply. I'm like, stop, stop. You're wrong!" She said this as if she did not think Glassdoor was wrong but did not want to know or admit the discrepancy directly. As if trying to convince herself further of the futility of exploring her options, she went on, "And nothing beats the flexibility." Schools argued, and many teachers echoed in these interactions, that lower pay was justified because teaching online was more desirable than teaching in person. The "perks" of being in virtual schools – particularly the ability to time-shift some responsibilities and telework – were consistently foregrounded as reasons to offset the lower pay. The qualities that attracted teachers to virtual schools meant there was a constant supply of potential recruits who could be poached from district schools. Vanessa (T5) said that at the Pelican School, this was an explicit threat from management: "it's been told to us that, people want to work from home and that we will be easily replaced. They can find people for these jobs." She laughed uncomfortably. These narratives align with Pugh's (2015) findings that many workers understand a loss of job security in terms of a gain in flexibility. Teachers understood this calculus, and some were more or less content with the tradeoff.

Yet others argued that despite the benefits of teaching online, the structure of virtual teaching as it was practiced at their schools introduced new strains that placed their compensation out of line with what they deserved. Like both gig workers and many contemporary white-collar professionals, teachers in virtual school faced the intrusion of their work environment into their personal space, and attendant difficulties managing boundaries between the two. While some teachers had strictly defined hours, others found themselves "on call" for student and parent communications 24/7, even when they were explicitly off duty. Greene (2021) has documented how in educational settings, this phenomenon of digitally enabled constant connection to work, which Melissa Gregg has termed "presence bleed," "raised students' expectations of when and how teachers would communicate with them" (130) leaving teachers "desperate for a spare moment in which to work." At the Pelican School, many teachers were required to be available for twelve-hour shifts, 8am – 8pm, in order to facilitate "flexibility" or time-shifting for students. The school argued that this did not constitute twelve full hours of work, because teachers need only respond when contacted, rather than constantly be active. However, teachers pointed out

that time directly interacting with students made up only a portion of their work responsibilities, meaning that, like the teachers Greene observed, they would be scrambling to fit in lesson planning, grading, and outreach in the gaps between times when their presence was specifically requested.

Teachers largely managed their telework experience with separate office space and most had distinct “work” devices provided by their employers, but even having implemented these strategies, business and personal spheres necessarily blurred. “When you work from home, you don’t take breaks,” said Amy (T21), a high-school English Teacher at Cardinal Pacific. Amanda (T23) similarly found that without physical separation, it was difficult for her to impose boundaries on her work. She said, “My office space doesn’t have a door to shut, so that’s hard – I think if I had a door, I could just walk past it. For me that’s a challenge, shutting it off.” Vanessa (T5) had a similar take: “I think with virtual schooling – because it’s online, and you have access to the internet all the time – it’s a lot longer of a day. My last call last night was late, and my first call this morning was at 7:45. It’s a lot more stamina.” No stranger to hard work as a full-time teacher who was simultaneously pursuing a doctorate degree in Education, Vanessa found that despite promises of flexibility, it was difficult to balance her personal life with her the demands of her work. She said, “it’s very hard for me to see my family. There are times where I’ll have to say, ‘Listen, I’m sorry, I can’t have dinner with you guys tonight, because I’ve got 19 calls that I have to make.’ And then, the next morning, ‘Oh, listen, I’m going to run get a cup of coffee, I’ll be back, and I won’t see you for the next nine hours.’” While teachers have long worked beyond their hours in the school building, bringing grading or lesson planning home, virtual school makes it much more common for the relational communications work of teaching to extend into all hours.

Even the twelve-hour shifts did not fully express their workload, because, Vanessa pointed out, once the expectation was set that teachers were available outside of traditional work hours, parents and students would often interpret this as limitless availability – calling five minutes before a teacher’s shift ended at 8pm, for example, or texting them at 2:30 in the morning. She experienced these communications as unfair demands on her time, laughingly proclaiming, “I’m not 7-Eleven, sorry.” On the flip side, limitations in teachers’ labor agreements could, at least officially, prevent them from doing their jobs. Valeria (T7), a high-school math teacher at the Pelican School, explained that as a nine-month employee, “we’re not supposed to check our emails, we’re not supposed to login over the summer at all, because we’re not under contract.” Yet in order to keep things manageable for themselves, teachers had to work even when they were officially on break, which furthered the incursion of work into their personal time.

Adding to the pressure teachers faced was the large number of students they were expected to serve. Freed from the restrictions of the physical classroom, and theoretically supported by the on the ground labor of learning coaches, teachers were often responsible for far more students than they would have been in brick-and-mortar schools. Vanessa recalled, “We have 160, sometimes 180 kids. There was one year I had 437 active students. It was insane!” William (G9) noted that one reason he believed Eagle Academy provided a better educational experience for his daughter than the virtual elementary school she had previously attended, which was run through the local school district but largely outsourced to Bluebird Inc., was that at the latter, “they have a really high student teacher ratio.” Valeria (T7) argued that class size was a

consistent point of friction with Pelican School administrators, because after a certain point, taking on additional students diminished educators' efficacy: "that's something that *everybody* complains about, every year." Smaller class sizes weren't simply an issue of more work for teachers – they were necessary in order to maintain practices of attunement. Beth (E6) explained that when she began teaching at the Lake School, she found being responsible for 45 students overwhelming because of the additional labor she had to undertake in order to maintain robust relationships with each student and their family. Both Beth and Stacey (T19) emphasized that teaching online meant teachers had to do *more* work per student in order to be effective, not less.

Vanessa emphasized that the experience she and her colleagues had at the Pelican School went beyond the normal intensity of teaching. She recalled that as she and her fellow teachers began to speak more openly about their concerns with their workload, they noticed an unusual pattern. Laughing, she shared,

This is terrible to say. One of the things that stuck out, really, was 'What kind of anxiety medications are you on?' That's what got us started ... this is not a normal conversation that people typically have in the workforce. How can we change this? How can we make it better? And that's when we started talking about trying to unionize.

Their initial feelings were quickly validated when one of the Pelican School teachers contacted national teachers' unions. Vanessa remembered, "They started to say, 'OK, well, why do you want to do this?' And we would say, here are our work hours. Here are the expectations. And, they were like, [laughs] 'That is ridiculous!' Correct, yeah, ok."

Organizing

Teachers would use multiple means to try to address their concerns about their working conditions. Despite longstanding efforts to frame teachers' interests as opposed to those of students (with some legitimate reason) (Uetrict 2014), virtual school teachers shared the stance of their in-person counterparts that policies harmful to them were also bad for students. They would emphasize this as they shared concerns directly with their supervisors and administrators, replied to organizational surveys, spoke up at school-wide staff meetings, and submitted comments at board meetings. In doing so, teachers leveraged their position as points of connection between the school and the students to claim authority for knowing what would be best for students' wellbeing, and also relied on evidence of what other similar schools were doing.

Emma (T17) recalled teachers at her school organizing to request new staff positions that would advise students, lifting some of the responsibilities for student engagement and guidance from teachers' plates and thereby enabling more wide-spread student care. The administrators at her school, a regional outpost of Bluebird Inc., consistently resisted: "For years and years and years, we've been asking for this change. We've constantly been told, 'No, no, no, no, no.'" But eventually, Bluebird Inc. stepped in and recommended just this shift those teachers had been advocating for. Emma believed the corporation did so because of the responses they saw on surveys from teachers across their many schools – that Bluebird Inc. "listened to teachers." Yet even as she stated this, she wavered, as amending her prior statement about Bluebird's

responsiveness to teacher advocacy with, “That’s what I think. I don’t know that for sure. I would like to think that.” She laughed, emphasizing her uncertainty. An alternative explanation might be that Bluebird Inc., encountering ongoing difficulties in maintaining and expanding their schools in the face of increased regulatory scrutiny, had realized the critical importance of keeping students engaged and eliciting their data, and the relationships necessary to make that happen, and discovered that overburdened teachers could not keep up with the level of communication that would be required alongside their other responsibilities. However, teachers’ comments on the matter would certainly have been useful in understanding the situation.

Organizations did often shift policies and practices when faced with feedback from teachers. The algorithmic system of determining families who required phone calls that had tortured Anthony and other Pelican School teachers was shelved when teachers complained, and even the monthly call requirement was eventually dropped. Teachers continued to maintain a level of power to influence organization choices. But when complaints weren’t enough, some turned to unionization.

The effort to unionize at the Pelican School was bolstered by a nation-wide resurgence in teacher organizing at the time. In what came to be known as the “#RedForEd” movement, teachers in traditionally conservative and largely rural states including West Virginia, Arizona, and Kentucky participated in illegal wildcat strikes that received wide-spread support and succeeded in attaining benefits for their members (Catte and Salfia 2018; Burnette 2018). At the same time that teachers at the Pelican School were communicating with national leaders and planning their strategy, teachers across the country at Bluebird West were also beginning to organize. But the two campaigns had divergent results. After the Pelican School was made aware of the unionization effort, teachers who were living out of state were abruptly told that they would have to re-establish residency in the state within 30 days or face termination. Unwilling and unable to uproot their families on short notice, these teachers saw their contracts ended. While there was no way to prove a link to the unionization efforts, Kate (T1) believes the action was taken to intimidate teachers and frighten them away from organizing. The effort to unionize failed. Yet at Bluebird West, teachers were successful in establishing the first union of virtual school teachers. While the victory of teachers at Bluebird West was likely helped by the labor-friendly laws of their state, the occasion would certainly stand as a beacon to other schools across the country that unionization could be an option for virtual school workers. To extract maximum profits and minimize teachers’ influence over school governance, companies like Bluebird and even state-run schools like Pelican would be incentivized to keep that from happening wherever possible.

Alliances

Collective organizing could only happen when teachers were able to build trusting relationships with one another in which they felt safe to share their experiences and discuss avenues for change. As with their connections to students, many teachers felt immensely isolated in the virtual school environment. Emma (T17): “It is a very isolated job. I don’t interact with a lot of adults very often, but the co-teaching model has been really helpful for my social needs as well.” However, because collaboration was so crucial given their limited venues for eliciting information about students and the distributed nature of their work, many schools did invest in supporting teachers working together. Even when not school sanctioned, teachers tended to find

one another, seeking opportunities to commiserate, exchange strategies, and identify sources of support.

Emotional connections with students and parents could also provide a valuable resource for teachers attempting to organize their workplaces. Teachers and parents have not always been natural allies. For example, in the 1960s and 70s, most famously in New York City, although some teachers' unions supported and adopted the techniques of the Civil Rights Movement, largely white teachers' unions clashed with Black and Brown parents demanding community control (Goldstein 2015) and "pursued agendas of self-interest" (Uetrict 2014, 50). Right wing campaigns to undermine public sector labor power have attempted to position teachers' interests as opposed to those of children and families. Yet recent high-profile wins by teachers' unions have occurred in circumstances where teachers aligned themselves with broader grassroots coalitions and gained the support of parents. As reporter and former union organizer Micah Uetrict (2014) explains in *Strike for America: Chicago Teachers Against Austerity*, teachers' unions are split between two models – one that functions in a top-down fashion and aligns union leadership with civic bureaucrats in an antagonistic relationship to broader community goals for social change. Greene (2021) similarly makes the case that institutions of social reproduction, including schools, "mandate an interclass antagonism between these professionals and the people they purportedly serve" (185) but that there is the potential for such professionals to break this pattern and "organize at the point of reproduction in solidarity with their patrons and students, based on the recognition that both helper and helped share an interest in preserving the institutions of public service" (185-186).

I asked Lily (T8) directly about parental support for the unionization effort. Sounding somewhat sad, she replied somewhat hesitantly, "unfortunately, they were more like silent supporters." But quickly, she pivoted to note the structural conditions and technical affordances that kept teachers and parents separated.

It's hard to get somebody to stand up to bat for you when ... you're not making eye contact with them. If I'm eye contacting you, and I'm, like, 'Hey ... can you please do this?' [then they probably will]. But, hoping that they'll read your email, and hoping that they'll come to a virtual session to talk to you about it – it's a lot harder ... Because all these parents ... have work, they all have things that they're doing. A lot of people that I spoke to, they definitely supported the union, they definitely supported what was going on, but it was hard to get people to take that next step and be a more vocal advocate.

Lily's description here of the difficulties connecting with parents echoes many of the barriers teachers described to connecting with students in the online classroom, returning to the primacy of sight in establishing trust and rapport. Yet these similarities also suggest the possibility for an alternative outcome. Just as teachers learned to connect with students online and developed strategies of attunement in virtual environments of limited visibility, the same may be true of tactics of coalition solidarity. After all, teachers face many of the same challenges in connecting with one another. And many teachers already have a starting place for beginning a conversation with parents through their efforts to collaborate on students' education. When Lily told me that her school had moved away from relying on parental outreach to boost student engagement and performance, I wondered – could this be the school's attempt to weaken potential alliances

between teachers and parents in the face of increased union pressure? Perhaps because of the limited outward support they'd received from parents in their unionization drive, Lily didn't buy it. But in general, close collaboration could certainly become a breeding ground for solidarity that could challenge administrator authority. Kate (T1) recalled being moved from her initial assignment at the Pelican School to a different grade level team:

Now, part of me, looking back, thinks my boss at that time, which was way back, thought maybe those of us on the sixth-grade team were a little too tight. And I think I was kind of seen as like, maybe, I was rallying people the wrong way. You know? Keep them separated so they can't have any fancy thoughts?

She laughed after saying this, as if to suggest that she was not holding too tightly to the idea that her boss was intentionally trying to distance her from her co-workers in order to avoid collective organizing, to avoid being interpreted as overly paranoid. But she went on to discuss the wide variety of issues with that supervisor, who she credits as "the one responsible for the union forming" in response to his bad behavior. This included explicitly admitting to blacklisting some of Kate's colleagues, preventing them from being promoted. Several teachers I talked with spoke about a pervasive culture of fear among their fellow educators at the Pelican School that complaints about working conditions or efforts to agitate for change would be met with professional retribution.

Conclusion – If not this, what?

Virtual schools find themselves in a bind. By offering to translate diverse conditions of teaching and learning into standardized data, they see an opportunity to extract value by offloading responsibility for large portions of the schooling process onto private families while receiving the same funding from the state, or in the case of private schools, from families themselves. Yet fulfilling this promise at low cost requires having a majority of students and families able to perform with little assistance. Otherwise, teachers are saddled with the labor required to translate the varied experiences of learning into standard outputs, and this work is expensive to keep up. Further, it places power with teachers, rather than with administrators. In light of these pressures, schools attempt to substitute new forms of data and place the highest value on matching required outputs, whatever the cost. These changes threaten to undermine the ability of virtual schools to offer distance, balancing, and focusing to their participants, placing their core rationale under question. While it is beyond the scope of this dissertation to make detailed policy recommendations, in this conclusion I attempt to address some of the big picture questions that arise from these findings.

Many researchers concerned about the practices of virtual schools, especially online charter schools affiliated with for-profit companies, have called for schools to be closed based on poor performance or to "use performance data to inform funding decisions" (Molnar et al. 2021). Yet as I describe, such policies incentivize schools to push teachers to inflate grades and graduation rates, focus on test preparation to the exclusion of other content, and find means to remove groups students with the highest needs, who are likely to have lower test scores, or prevent them from joining schools in the first place. The assumption behind these recommendations is that absent the option to attend poor-performing virtual schools, students will enroll in schools that

will better educate them. Yet there is not strong evidence that this assumption is valid, and research in the context of other school interventions and closures (Gordon et al. 2018; Darling-Hammond 2007) brings reason to be skeptical of these claims.

If some accountability frameworks incentivize problematic behavior from schools that does not further learning objectives, as I have documented here, where does that leave regulators? After all, as is evident in the cases of fraud discussed previously, an environment of de-regulation is ripe for exploitation. Where many efforts at accountability for virtual schools go wrong is with the same fallacy that critics of dominant education legislation have been concerned about for decades. As Linda Darling-Hammond (2007) explained of the Bush administration's approach to education policy, "The biggest problem with the [No Child Left Behind Act] is that it mistakes measuring schools for fixing them" (249). The same is true with virtual schools. There is no doubt that some, if not many, virtual schools fail to adequately serve their students (and also their staff), acting instead, as Kate noted, as "credit mills" or worse. But measurement alone does not help the students or educators in these schools.

It may be tempting to at least seek a prohibition on for-profit entities receiving state funding for public education, to at least remove rent seeking as a motivation for running schools. Given that "non-government actors [including for-profit companies] are involved in all stages of the regulatory and administrative process" (Freeman 1999), complete removal of private entities is out of the question. In California, a blanket ban on for-profit charter schools was not enough to stop non-profits from essentially acting as fronts for for-profit CMOs (In the Public Interest 2015). However, when public agencies contract with private providers, they at least retain a level of democratic decision-making and can "ensure competitive bidding" to select products with the best interests of students in mind (ibid). Burch and Good (2014) point out that while "Public agencies have long contracted out for operational services," there has been a marked expansion in privatization for "the core functions of public schools: teaching and learning" (176). Given the pedagogical stakes, as the report from In the Public Interest points out, approval and oversight of instructional and curricular providers need to come from authorizers with the experience and capacity to evaluate them, and not from entities who have a financial incentive to approve and step back. Often, what private providers have to offer that public providers lack is high-quality software and digitized instructional materials. Particularly since electronic platforms can be more easily shared and adapted across wide geographic regions than in-person services, state and federal government officials could work together to develop publicly-funded infrastructure as an alternative to using private platforms and curricula, or create consortia to make joint decisions about adoption of products from a variety of providers, requiring interoperability. Such public decision-making bodies could then proactively advocate for affordances that support students and teachers, rather than going along with the defaults recommended by companies who have competing interests and fundamentally embed "a tension between profit and equity" (Burch and Good 2014, 178). These bodies could also make determinations, informed by research into the realities of virtual schooling, for how funding should be allocated based on real costs (as recommended by Barbour, Miron, and Huerta 2017; Molnar et al. 2021).

The problems identified with virtual schools are also often endemic across the public and charter school system and need to be addressed with broader action. Strengthening implementation of existing regulations around educational access and support for students with disabilities, for

example, could both stem the tide of families put in a position where virtual education is a last resort and improve the experiences of students in both online and offline settings. Limiting class sizes and student-teacher ratios is a necessary demand for student well-being in both offline and online contexts. While some researchers have recommended restricting which students can enroll in virtual schools (Pazhouh, Lake, and Miller 2015), a more equitable approach that reflects public schools commitment to inclusion would be to require staffing levels that would be necessary to provide adequate support to each student. As discussed throughout *Closing the Opportunity Gap* (P. Carter and Welner 2013), equity in education will come not from assessment of outputs, but genuine investment in ensuring students have the resources they need to thrive. This includes promoting highly-qualified teachers from diverse communities in all schools (premised on a robust system of affordable higher education and other social supports), sponsoring curricula that accurately represent the diversity of the U.S. population and deal truthfully with historical and existing power relations, and large-scale policies to provide safe, accessible, and affordable healthcare and housing.

However, in addition to the society-wide approaches, policymakers determining implementation of educational policies and providing ongoing oversight need to be specifically versed in the context of virtual schools in order to assess what compliance looks like for digital learning. For example, the equivalent to providing transportation for in-person school choice efforts (J. Scott and Wells 2013) in a virtual school context may be offering services targeted to parents and families or shared learning coach options. As many reviewing online school policies recommend, there needs to be further public investment in ongoing in-depth research into virtual school experiences to help guide these decisions, including the perspectives of those most impacted – students, teachers, and families (Molnar et al. 2021; Burch and Good 2014). Doing this will require virtual schools to be more open about their operations – not just reporting quantitative metrics such as student performance or instructor contact, but engaging regulators and participants in ongoing discussion around overall practices and experiences. Calls for “data transparency and accountability” (Pazhouh, Lake, and Miller 2015) should be focused on organizational arrangements and holistic understanding, not on controlling specific individual behaviors. As Burch and Good (2014) argue, “structured dialogue is a critical component of transformation in digital education...questions can sometimes be more powerful than a list of mandates or imperatives in that they create opportunities for engagement” (179). This is exactly what teachers have discovered in their efforts to perform attunement with their students and holds at the school level as well. Governing virtual schools properly requires getting to know their unique affordances and needs, and responding accordingly, rather than attempting to implement standardized recommendations designed to match different kinds of environments.

Conclusion: Chaos, Crisis, and Charting a Path Forward – Envisioning Virtual Schools in the Shadow of COVID-19

“We learn about worlds when they do not accommodate us. Not being accommodated can be pedagogy. We generate ideas through the struggles we have to be in the world; we come to question worlds when we are in question.”

- Sara Ahmed, “An Affinity of Hammers,” 22

As I write this conclusion in November of 2021, debates over schooling have taken center stage in U.S. public discourse. At the beginning of this month, Republican Glenn Youngkin won the Virginia gubernatorial race after making education a primary focus of his campaign (Goldstein 2021). Several pundits have argued that Youngkin marshalled explosive anger, primarily from white mothers, at both the closure of school buildings to minimize contagion during the pandemic and ongoing risk mitigation measures such as masking; and at efforts to incorporate broader discussion of historical and systemic racism across the curriculum (Z. D. Carter 2021). As long-time education journalists have noted, across the country there has been a rise in furious parents challenging local education officials on these points, backed by right-wing funders (Kamenetz 2021). The specifics of these incidents may seem contradictory, given that the same conservative forces have previously championed virtual schools (Kamenetz 2018; Schneider and Berkshire 2020). Yet sociologist Calarco (2020) speculated that part of the motivation for then Secretary of Education Betsy DeVos to push reopening public school buildings without providing them with the resources to do so safely might have been to encourage families, especially those with higher wealth and educational attainment, to turn to virtual schools. And efforts to combat teaching about racial injustice broadly align with the desire by many parents to exert greater control over children’s school experiences. Many interpret this development as an extension of ongoing efforts to destabilize public education overall, in favor of a privatized school system. Both attacks on and advocacy for virtual schools can here be reconciled under the rhetoric of parental choice.

Fury about remote learning is not a simply partisan issue. Although it appears that a majority of parents supported school building closures and their local teachers’ unions (Ogurlu et al. 2020; Klein and Edwards-Levy 2021), at least prior to the wide-spread distribution of COVID-19 vaccines, there were strident campaigns against the practice in heavily Democratic areas (Jones and Rosales 2021; Mazorati 2021; Shapiro and Kim 2020). This outrage about virtual schooling was not evenly distributed. White parents expressed a greater preference for in-person schooling (during the continuing pandemic) than Black and Latinx parents (Schwartz, Diliberti, and Grant 2021). However, across state-wide polls conducted early in the pandemic in Texas, California, Washington, and New York, almost 90% of parents surveyed expressed being “worried about their children falling behind academically due to coronavirus-related school closures” (“Parents Overwhelmingly Concerned Their Children Are Falling Behind During School Closures” 2020). Parents of some students with disabilities found their hard-won IEP and 504 plans abandoned or put on hold, leaving their children without appropriate educational access or support (Smylie 2021; Nobles 2021; Nelson 2020). Just as it is difficult to determine how much blame to place on virtual schools for low scores, it is similarly challenging to ascertain to what extent academic concerns relate to the online mode of instruction versus the strain of living through a global health crisis or teachers and families unprepared for drastic and sudden shifts in their ways of

life. But many parents, policymakers, and media influencers have chosen to direct their ire and anxiety specifically at online education.

Beyond concerns about children's learning experience, many parents felt abandoned by the state in the shift to remote learning, with childcare responsibilities they had taken for granted suddenly delegated back to them without any additional support or the removal of other obligations (Niazi 2021). Mothers took on disproportionate amounts of labor to coordinate schooling at home and ensure children's wellbeing, taking a toll on their own ability to participate in the labor market (Cerullo 2021; Cassella 2021; Modestino 2020; Henderson 2020; Stevenson 2021). As I found in the pre-pandemic context, virtual schooling tends to assume and require much greater parental (or other adult) involvement during school times than in traditional brick-and-mortar schools. For younger children especially, the caretaking functions performed by teachers in in-person schools are delegated in a virtual environment onto adults who have physical proximity to the students. Particularly with teachers and families unprepared for this circumstance, the results have been predictably chaotic and stressful for many families. Calarco and her co-authors (2020) find that mothers in wealthier families experienced greater anxiety and frustration during school building closures. They argue that this was because these women faced "intensive work pressures and/or pressure to follow intensive parenting norms" and felt unable to live up to these expectations under the current conditions. In other words, these are a distinct group of parents from many who choose virtual schooling, who believe it is beneficial to their children to be under their direct protection and often feel a moral responsibility to fulfill this role. Yet my study suggests that with the expansion of virtual schooling, students whose families fall into this category are increasingly signing up. This contributes to the tensions I have examined around the responsibility for schooling and misalignments between the expectations of education policy, school practices, and the lived realities of those involved with virtual schooling.

All of this has taken a toll on teachers, who have been the targets of parental and policymaker hostility arising from virtual school conditions while trying to adapt to online instruction, many for the first time and often while responsible for their own children's schooling at home (Steiner and Woo 2021; Cardoza 2021). As I discuss, the shift to online learning can be a shock to the system for teachers who have developed elaborate practices of attunement grounded in the assumptions of in-person schools, including shared physical space, synchronous classes, the limited involvement of parents in the classroom, and clear rules and norms around behavior and procedures to manage the violation of these. Teachers have to put in a great deal of effort to develop new ways of getting to know their students and strengthening their relationships, and often have to navigate the additional work of coordinating with parents and other family members. These growing pains were exacerbated during the pandemic because many schools attempted to maintain their usual procedures as much as possible, changing to a digital mode of instruction but not adapting other elements of their institutional assemblage, such as attendance. Teachers and school officials discovered in real time the discrepancy between their standard practices and the current conditions, revealing unexpected elements tied to the production of their daily routines. Many teachers were furious when, amidst their heroic efforts to connect with students in the face of so much change and the very real and pervasive danger of deadly disease, parents and policymakers blamed them for attempting to reduce the risk of contagion and spoke of "school closures" as if teachers were laying down on the job (Smith and Gamsby 2020).

When I began writing this dissertation in the spring of 2020, I believed that COVID-19 would facilitate the expansion of virtual schools, as a subset of students, teachers, and families found that they actually preferred remote learning, or at least some of the affordances it had to offer. Despite the politically contentious nature of remote learning, a series of reports from the RAND Corporation (Diliberti and Schwartz 2021; Schwartz et al. 2020; Kaufman and Diliberti 2021) seem to lend credence to this hypothesis, finding that by Spring 2021, “One-third of schools reported plans to offer remote instruction to any student who wants it after the pandemic has passed” (Kaufman and Diliberti 2021). For some Black students, virtual school during COVID-19 provided a partial reprieve from continuous racism in schools, or allowed parents to intervene when they witnessed teachers sharing racist content or interacting inappropriately with students (Anderson 2020; Fernando 2021). And even before the pandemic, many institutions had been exploring how online instruction could supplement in-person classes in cases where physical attendance threatened the health and safety of students to avoid disruption of the academic calendar. For example, UC Berkeley began “instructional resilience” initiatives in Fall 2019 focused on digital instruction after wildfire smoke repeatedly threatened the campus with unhealthy levels of outside air pollution (Alivisatos and O’Reilly 2019). Since the pandemic began, virtual schooling has increasingly been used when districts have problems with local water supplies (Williams 2021; Murrell 2021) and during inclement weather (Nicosia 2021; Cray and Ome 2021).

We are thus at a societal crossroads around online schooling. Many recognize the practice as necessary, and some find it desirable, while others are vehemently opposed to it for a variety of contrasting reasons. The forced adoption of remote learning due to the pandemic has heightened the seeming contradictions at the heart of the enterprise as it currently exists that I hope have become clear throughout this dissertation. Virtual schools are simultaneously a vehicle of white flight from integrated classrooms *and* an imposition on poor and working-class communities of color *and* a respite from some of the violence of structural racism. They diminish the accessibility of public education for some students with disabilities *while* improving it for others. They aid both individuals’ efforts to balance competing responsibilities *and* corporate and governmental attempts to offload public infrastructure onto unpaid labor for the profit of corporations. They provide a means to advance democratically determined collective goals *and* a way to withdraw from the social covenant for the advantage of some individuals. While virtual schools can to some extent continue to function in these heterogeneous ways, many of the decisions being made now will contribute to tipping the scales one way or another in these diametrically opposed functions.

As the public debates policies and strategies related to remote learning going forward, I propose several primary considerations drawing on the findings in this dissertation.

There is no singular virtual school experience

This dissertation project began because I was fascinated by the fact that some online schools were receiving awards for their pedagogical innovation while others were targeted as examples of the worst trends in modern education. My empirical examination confirmed that the difference was not merely rhetorical, as “virtual schools” are take diverse forms and the people participating within them have a wide range of experiences. In making decisions about whether

to participate in virtual schooling – as a school district, a worker, or a family – it is vital to focus on criteria such as curriculum, pedagogy, accessibility, privacy, teacher – student ratio, mode of instruction, governance, and financialization in addition to reflecting on the basic dichotomy of online vs. in-person programming. In this dissertation, I have mostly focused on the dominant form of online schools in the U.S. pre-pandemic, which tended to be those managed by national for-profit companies who provide platform, curriculum, policies, and institutional infrastructure to local districts, charter schools, or private schools. Yet I have also sought to make note of influential departures from the norm. Ivy High School’s small class sizes and emphasis on discussion-based lessons developed by the teachers who facilitate them are a massive departure from asynchronous, individual programs where teachers evaluate the submissions of hundreds of students using criteria over which they have little control. Similarly, Eagle Academy’s non-profit status allows administrators to invest state funding in developing curricula adapted to their students’ circumstances and alleviates pressures on teachers to rush through student and family interactions. Over the course of my observations and before I arrived, Lake Hybrid Charter School made a number of attempts to re-envision the shape of virtual schooling, looking to respond to the wide diversity of families involved in the organization and deepen connections throughout their community. The ongoing modifications to even dominant paradigms like those exhibited by Bluebird and Cardinal schools across the country indicate the multiple possibilities for virtual school structures.

And yet, this dissertation also seeks to emphasize that whatever the *possibilities* of virtual schooling, the *realities* are often constrained by social, economic, and political contexts. The more virtual schools become associated with particular patterns, the narrower the opportunities for alternatives. As Burrell (2012) writes in the context of Ghanaian internet cafes, “the scripting of these spaces and the technology within are becoming more entrenched and inflexible” (187). Greene (2021) emphasizes that despite the best efforts of public institutions like schools to respond to demands of funders and policymakers to be infinitely nimble and adaptable, there are “political and economic limits placed on their experimentation because they cannot choose their clients but must serve the polity as a whole” (139). The enormous effort of teachers, families, and students to collaboratively craft learning experiences in virtual environments demonstrates what it would take to meet the obligations of educational access for all students while lifting restrictions on how students and families conform. Whether those models can survive and flourish at scale will be determined by the willingness of policymakers to recognize the often-unquantifiable qualities that contribute to educational advancement and to provide the necessary funding to facilitate those activities. Doing so is likely incompatible with a model of private enterprise and requires a robust public commitment.

Violence is everywhere – now what?

Many people arrive at virtual schools not because that is their general preference, but a way of temporarily escaping or diminishing threats to their wellbeing present within in-person schools or that result from the traditional organization of schooling. While virtual schools provide reprieve for some people in various forms, they do not eliminate the problems which people are trying to get away from. In fact, as I have shown throughout, they can replicate or worsen the general patterns that motivated a search for alternatives. Because of this, virtual schools cannot be seen as a solution to the social problems that lead people to seek them out. Instead, the

underlying conditions that contribute to these dangerous situations must be directly addressed. As the scholars in *Closing the Opportunity Gap* (P. Carter and Welner 2013) point out, this means rectifying the unequal resources afforded to children in U.S. schools which perpetuate centuries of “educational debt,” ensuring that all students have access to teachers with knowledge of and respect for their communities and cultures, and implementing broad social policies outside of schools that boost children’s ability to thrive (e.g. affordable and safe housing, universal health care, robust public transportation).

By the same token, those seeking to address harms occurring within virtual school spaces, including deceptive advertising, child abuse, pervasive non-consensual data collection and surveillance by both companies and family members, and profiteering, must attend to the specific mechanisms through which these abuses occur, foregrounding the knowledge of those most affected. We have a recent example of the ways that attempts to curb technologically mediated violence can backfire, particularly when resting upon taken-for-granted assumptions about the beneficiaries of the status quo, in the sex industry. Lawmakers have of late sought to reduce sex trafficking and sexual exploitation by barring platforms that facilitate the advertisement of commercial sexual services. Companies behind core technical and financial infrastructures also frequently prohibit the use of their platforms to share sexual content or purchase sexual services. Yet many sex workers have argued that these measures have made them more unsafe, by pushing them into riskier in-person spaces and removing opportunities for them to share information with one another and review potential clients (Blunt and Wolf 2020). Rather, they point out that the root causes of violence and danger in their profession rest in poverty, criminalization, lack of access to universal healthcare, housing, and higher education, transphobia, racism, and other structural variables. This is not to say that conditions in the sex industry could not benefit from any form of regulation. Sex workers have collectively organized to advocate for a variety of changes to the status quo (Kuo and Lee 2021). Berg (2021) points to ambivalence around some of these projects which seek to make sex work more similar to other “straight” jobs. She emphasizes that many enter into sex work because “regular” jobs fail to accommodate them at best, or actively exploit them at worst. Efforts to assimilate sex work that are not accompanied by challenges to the harmful conditions that led sex workers to reject other forms of employment are thus likely to do little to assist those within the profession most marginalized by dominant society. McMillan Cottom (2017) makes a similar point about the inadequacy of narrow responses to exploitative ventures incentivized by current economic conditions: “If for-profit colleges like ITT are no longer around, then another form of short-term, on-demand credentials will respond to consumer demand by extracting profit from student loans and education savings accounts. That’s the best case scenario” (172). The same is clearly true with virtual schools. Attempts to reform virtual schools by making them more similar to in-person schools, without redress for those alienated from and punished by the mainstream school system, once again come with the greatest cost for those who have the most to lose. This is the problem, as we’ve seen in the “Chasing Data” chapter, with current accountability regimes. New approaches that address the existing problems in these spaces without replicating exclusions are desperately needed.

Human relational labor is key to teaching and learning

Despite efforts to scale and automate teaching, core practices of attunement only possible within the context of human relationships remain central to the learning process. Some of this work can be delegated to unpaid family or community members, but this will often require coordination labor and training to bring outside contributors in line with institutional goals. As Young (1999) argues in the context of conventional schooling, while integrating family and community members into the educational process is a laudable goal and can have many benefits, including better protection of and care for those who have too often been written off by the dominant education system, this process will be labor intensive and must be accompanied by dedicated resources to maintain participation and develop shared practices and goals. Thus, offloading certain elements of teaching may not save time or money for school staff, particularly since collaborations between school staff and family and community members will require building sustained relationships in order to succeed. Developing rigid metrics and punishment may temporarily avoid the relational labor necessary to negotiate the learning experience, but doing so has negative effects on learning and creates many of the same conditions participants in virtual schools have tried to escape. While automated tools and trace data can be helpful in assisting virtual school teachers in understanding their students, teachers' techniques of building connection with students and their families are simply irreplaceable by machine technology. As Suchman (2006) makes clear:

[P]eople make use of a rich array of linguistic, nonverbal, and inferential resources in finding the intelligibility of actions and events, in making their own actions sensible, and in managing the troubles in understanding that inevitably arise. Today's machines, in contrast, rely on a fixed array of sensory inputs, mapped to a predetermined set of internal states and response. The result is an asymmetry that substantially limits the scope of interaction between people and machines. (179)

The process of understanding what is going right or wrong in a student's learning is a complex one that can only happen within the context of an existing relationship of trust. The meaning of data remains open to interpretation and contestation, particularly when moving outside those direct relationships (Crooks 2019). For virtual schools to be successful in meeting the needs of participants, they need to be organized to facilitate the development of these relationships. The development of new technologies should focus on supporting rather than supplanting these processes, particularly by developing infrastructures that facilitate attunement without intrusions on privacy. This does not mean that each student requires an individual tutor, or that teachers have to insist upon having the same interactions with each student. Instead, it means allowing teachers to use their professional judgement and to respond to the signals students and their families are sharing with them, whether they indicate a need for a higher level of guidance or minimal communication.

The personal is political

Efforts to support personalized learning need to be paired with considerations of democratically determined social goals that move beyond paradigms of individual human development. The use of flexibility should be paired with material supports and acceptance of a diversity of appropriate experiences and outcomes, without sacrificing shared goals, such as "exposure of all students to a more expansive set of cultural codes and knowledge that represents ... a diverse country" (P. L.

Carter 2013, 149). The key balance revealed by this investigation of virtual schools is the need to avoid emphasizing the ‘personal’ to the exclusion of the social, while also staying away from narrowing the expected social norm to the exclusion of diverse lifeworlds. Since learning is a process of changing the self and the community in which one is embedded (Lave and Wenger 1991), education cannot simply respond to a pre-formed idea of who a student is. Neither should it, however, “espouse assimilation into the dominant culture” (P. L. Carter 2013, 148). At a time when there is an organized effort to censor particular elements of the curriculum that provide critical perspectives on racism, it is crucial to ensure that personalization does not become a cover for avoiding engagement with difficult or contentious material. If much of what students desire about so-called “personalized learning” comes down to being able to spend more or less time on a given assignment or unit while aiming to reach the same level of understanding, how can educational systems be designed specifically to support those possibilities, without cloaking these changes in charismatic language that obfuscates the reality of lived practice? Educators should seriously consider how to balance genuine frustrations that destabilize classroom environments and diminish students’ opportunities for fulfilling learning experiences without resorting to an “every child for themselves” approach. There are a number of interesting efforts in this area, for example the much-discussed “project-based learning.” However, accountability standards will need to be adjusted for these strategies to have a substantial effect.

Final Words

There is a famous concept in Science and Technology Studies and related fields that infrastructure becomes visible when it breaks down – that the conditions of production return to view when the output is called into question (Latour 1987; Star and Ruhleder 1996). Yet as ethnographer Michaelanne Thomas (Dye 2021) points out, for those who are actively involved in the upkeep of systems, and for those who are routinely failed by them, the complex web of interdependency is rarely far from mind. The COVID-19 pandemic exposed many people to the precarious and flawed nature of a number of systems that upheld everyday life in the United States, including schools. But these tensions predate the pandemic and will outlast them. The stories of those who have been involved in virtual schools provide a roadmap for beginning to work through many of the complications magnified in light of the current global crisis. If decisionmakers – in legislatures and classrooms and private homes – can pay attention to and learn from their experiences, they will have a head start on developing structures that are more sustainable and better address the varied needs of the public.

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Appendix A: Participants

Name²²	No.	School	Role	Specific Role	Sent Excerpts?	Review Status²³	Self-description
Aaron	T22	Lake	Teacher	MS History	No	Could not locate contact info	
Allison	G2	Pelican	Parent	Parent of three children in Pelican	Yes	No comment	
Amanda	T23	Bluebird East	Staff	Operations Manager / Family Engagement Coordinator / Former Elementary Teacher	Yes	Approved	
Amy	T21	Cardinal Pacific	Teacher	HS English Teacher	No	No reply to initial contact	
Andre	E8	Lake	Staff	IT	No	No quotes & could not locate contact info	
Anthony	T3	Pelican	Teacher	World History Teacher	Yes	Approved	Tall & thin, with a slightly rumpled look. My desk, or desktop, is messy, but I can lay my hands on what I want pretty quickly. I'm quick to say hello and will try hard to be helpful in whatever the situation is. It's 2 cups of coffee every morning.
April	E2	Ivy	Staff	Admissions Staff	No	No quotes	

²² All names are pseudonyms

²³ "Approved" includes cases where participants gave minor corrections which I have incorporated into the text and situations where the participant expressed doubt or mild disagreement with my characterization or analysis but not the veracity of the empirical claims. Where these latter concerns arose, I have also attempted to address them within the text. "Responded but did not comment on excerpts" refers to those who acknowledged receipt of the document but did not let me know their thoughts on it (my guess is that these participants either did not have time/interest before the deadline or forgot about the email, though it is possible that they read the excerpts and chose not to comment on them). "No response" means that I received no reply after sending the excerpts. "No reply to initial contact" is used where I reached out to someone via text or LinkedIn but did not get a reply.

Name²²	No.	School	Role	Specific Role	Sent Excerpts?	Review Status²³	Self-description
Ashley	G5	Lake	Parent	Learning Coach to her younger sister, who is 13 and lives with them, also has 3 children not in online schools	Yes	Responded but did not comment on excerpts	
Barbara	E11	Eagle Academy	Staff	Principal	Yes	Approved	
Beth	E6	Lake	Staff	Transformation Specialist & parent of former students	Yes	No response	
Brandon Brown	T15	Lake	Teacher	Elementary Teacher (later, principal)	Yes	Responded but did not comment on excerpts	
Catherine	T2	Ivy	Teacher	HS English Teacher	Yes	Approved	
Charlie	S4	Cardinal Pacific	Student	14-year-old at time of interview, son of Sophie (G6), interviewed together	Yes	Approved	16-year-old boy who homeschools. I study computer science, collect records, and I like to support local businesses. I am more social than my peers and I love my family.
Charlotte	S1	Eagle Academy	Student	Daughter of William (G9) and Cynthia (G10)	Yes	Approved	Charlotte is currently an honor student in the virtual school and participates in a variety of extracurricular activities, including National Honor Society, ASL, and robotics clubs.
Cynthia	G10	Eagle Academy	Parent	Mother of Charlotte (S1)	Yes	Approved	Cynthia is a stay-at-home mom and William (G9) is a professor in a college of education and a former schoolteacher. They have three children and began homeschooling each of them in kindergarten but transitioned each to a

Name ²²	No.	School	Role	Specific Role	Sent Excerpts?	Review Status ²³	Self-description
							virtual school by third grade. Their oldest daughter, Charlotte, attended a local virtual school for elementary and switched to a state virtual school in junior high. At the time of the study, Charlotte was a high school freshman. Cynthia and William chose home and virtual schooling because they believed it would allow them to provide more one-on-one learning opportunities for their children than a traditional school setting and because it allowed improved flexibility for family life. They shifted to virtual school from home schooling with each of their children for the benefits provided by having a set curriculum and so that they could use school testing services to ensure that their children were academically on track.
Daniel	E7	Lake	Staff	IT	Yes	No response	
David	T12	Lake	Teacher	MS Math Teacher	Yes	Approved	
Dina	T10	Lake	Teacher	ASP	Yes	Approved	Dina is a reading resource teacher working with Tier II students who worked to strengthen their skills to get as close to grade level as possible. She is a wife, mom of two, and a progressive activist and organizer.
Dr. Arthur	E17	Lake	Staff	Principal / Head of School	Yes	Approved	I would generally describe myself as reflective,

Name ²²	No.	School	Role	Specific Role	Sent Excerpts?	Review Status ²³	Self-description
							creative and hard working.
Dr. Murray	E15	Lake	Staff	CEO	Yes	Approved	Dr. Murray has spent four decades working as a policy advocate, administrator, instructional designer, entrepreneur, and researcher in healthcare and education settings across the United States. She is committed to abolition, racial justice, and participatory learning.
Emma	T17	Snow School	Teacher	MS Math Teacher	Yes	Approved	I'm a work-from-home mom and coach and spend most of my free time at my kids' sporting events. I am a giver of time, love, and compassion, and I love to be a part of someone's "Ah ha!" moments. I enjoy finding a spontaneous adventure just as much as I enjoy curling up with a good book.
Gabe	S2	Eagle Academy	Student	High schooler, also with his mom at the end	Yes	No response	
Grace	G3	Pelican	Parent	Parent of 6 children, 3 in virtual schools who also spoke to me on the call	Yes	No response	
Greg	E16	Lake	Staff	IT Director	Yes	Approved	
Hailey	S3	Cardinal Pacific	Student	5th grader	[Via parents]	Approved by parent	
Hannah	E13	Eagle Academy	Staff	Middle School Principal	No	No quotes	
Jane	T6	Sparrow Academy	Teacher	HS Math Teacher	Yes	Approved	An educator with several years of secondary teaching experience in both brick-and-mortar and online settings and

Name²²	No.	School	Role	Specific Role	Sent Excerpts?	Review Status²³	Self-description
							currently working in higher education.
Jean	G1	Pelican	Parent	Parent of two children, one of whom attended Pelican School, and a professor whose work includes a focus on digital environments	Yes	Approved	Her older daughter graduated a year early when she was 17, is now 21. Her younger daughter is a high school JR in IB program, did the last year online [due to COVID-19].
Jeff	T9	Bluebird West	Teacher	HS English Teacher	Yes	Approved	9th year virtual educator with two kids at home who attend brick and mortar school. I am a believer in the need for virtual education opportunities for many students, and I am proud of the support I and my school have been able to provide to thousands of students over the years.
Jill	E4	Lake	Teacher	Counselor	No	No reply to initial contact	
Kara	T20	Eagle Academy	Teacher	PE/Health Teacher	Yes	No response	
Kate	T1	Pelican	Teacher	MS Science Teacher	Yes	Approved	I'd describe myself as a people person; a servant leader wishing to improve the overall client experience, whether it be students, parents, or community stakeholders. I'm supportive, savvy, and always have several irons in the fire. I'm deeply involved with animal rescue and love being a parent of these two witty, imaginative little creatures I call my children.
Kristin	G8	Eagle Academy	Parent	Parent of two children who attended Eagle Academy &	Yes	Approved	I am typically pretty quiet and, my family is my number one priority, and they will always come

Name ²²	No.	School	Role	Specific Role	Sent Excerpts?	Review Status ²³	Self-description
				former board member			first, I like to cook and make big Sunday meals for our extended family. I have about a hundred houseplants because I love to take care of things, I have a lot of empathy and it helps me focus my attention on my family. I try not to take on too many people or projects.... because I will become obsessed if I do. I've been a huge advocate for other moms of special need kids, I will turn into a big old mean mama bear when I have to protect or advocate for my kids. I'd like to do lots of research and have read many books on the subject of ADHD and mental health. ²⁴
Lily	T8	Bluebird West	Teacher	HS Social Studies teacher	Yes	Approved	
Lisa	G4	Blossom School	Parent	Parent of 4 children, including Sarah	Yes	Approved	Sarah is now 25, employed in two part-time jobs and Lisa is working full-time leading a non-

²⁴ I did not want to remove any of the content participants sent, because I love their rich and varied descriptions. But for the sake of formatting my table, since Kristin's description is longer than others, I have moved her discussion of her sons, who I discuss in the text but did not interview directly, to this note:

"Zachary is funny and shy and very good at taking care of others, he has a lot of empathy. He loves to build things with his hands, he took a construction course in school and loved it and took it for a second year too! They built a house each year. He is a phenomenal cook and avid snowboarder, He's just recently taken up having house plans everywhere and propagates them from mine and they thrive better with him :) he loves to try new recipes & cooking & serving people. It's very kind to waiters and waitresses and makes every interaction personal with them, learns their name and gives them positive feedback It's really sweet.

My younger son was a dishwasher and a waiter for a small restaurant. He behaves so maturely that people would mistake him for over 21 and ask him out for a beer. His personality is he is quite a perfectionist and likes to do everything just right, he's very sweet and really focused, he picked up the guitar at 16 and plays at 8 hours a day. He's already surpassed three guitar teachers and only after 1 year. He's very social and likes to have friends and so his online school full time was only 2 years long because he does just find in a brick-and-mortar classroom... but he now can navigate their online portion of school just fine and is great at technology. He wants to be an engineer and is taking courses through the JATC to get a head start on that."

Name²²	No.	School	Role	Specific Role	Sent Excerpts?	Review Status²³	Self-description
				who attended virtual school			profit focused on trauma-informed parenting and schooling.
Lucy	E3	Bluebird East	Staff	Elementary Principal	No	No quotes	
Maggie	E14	Lake	Staff	Operations Director	No	Can't locate contact info	
Maria	T14	Lake	Teacher	Elementary Teacher	No	No quotes and can't locate contact info	
Marion	T13	Lake	Teacher	Former teacher	Yes	Approved	A forward-thinking educator leader with 20 years' experience that includes classroom teaching and curriculum development in public, charter and private schools.
Megan	T18	Lake	Teacher	Lead Teacher, Middle School Language Arts	Yes	Approved	
Michelle	E9	Lake	Staff	Strategy and Compliance Officer; parent of former student	No	No reply to initial contact	
Molly	G7	School 11	Parent	Parent of 17-year-old Nathan	Yes	Responded but did not comment on excerpts	
Natalie	E10	Eagle Academy	Staff	Counselor	Yes	No response	
Nicole M.	E5	Lake	Staff	Executive Assistant and former para-professional	No	No reply to initial contact	
Rhea	G11	Cardinal Pacific	Parent	Parent of Hailey (S3), 5th grader	Yes	Approved	
Ruth	T16	Lake	Teacher	Advanced learner Middle Grade Teacher;	Yes	Approved	As a teacher I've taught all grades, from pre-K through 8th grade. My

Name ²²	No.	School	Role	Specific Role	Sent Excerpts?	Review Status ²³	Self-description
				previously parent coordinator & early elementary teacher			students have been diverse in ability, race, ethnicity, and socio-economic background, however gifted education is my passion. I strive to create a student-led classroom built on student interest and academic need while also incorporating social emotional learning. In my opinion, parents are integral to the learning process and building these relationships has been a big component of my teaching.
Shannon	T4	Pelican	Teacher	High school Science Teacher	Yes	Approved	I'm a Caucasian female (pronouns she/her/hers) in my early thirties. I have a Bachelor of Science and intended to complete graduate school and work in the environmental science field. I needed to pursue other options and teaching seemed a good fit for my personal circumstances. I ended up really enjoying teaching so I got my alternate route teaching certification and was a science teacher for 6.5 years. I left teaching in early 2021 mainly due to the imbalance of work expectations versus compensation. I am currently studying to work in a clinical laboratory doing medical testing. Due to the high demand for trained professionals in the field and the limited number of college programs and professors, I think that I will be able to

Name²²	No.	School	Role	Specific Role	Sent Excerpts?	Review Status²³	Self-description
							find employment as an educator again but with better terms than as a high school teacher.
Sonya	E1	Ivy	Staff	Director of Student Life and Community	No	No reply to initial contact	
Sophie	G6	Cardinal Pacific	Parent	Parent to Charlie (S4)	Yes	Approved	I'm a mom that loves to cook and bake. I believe that giving your child the very best opportunity in life has no price tag. I also can't resist a good ghost story!
Stacey	T19	Cardinal Pacific	Teacher	Elementary	Yes	Approved	I am a kind and loving person who always takes care of my students. I also create a safe learning environment and support all my students' learning needs.
Stephanie	E12	Eagle Academy	Staff	Student Services Mentor	Yes	Approved	
Tom	C2	Falcon	Community	community advocate	Yes	Approved	I am a parent, a school administrator, and an interested/involved member in my local community. I am also a very strong proponent of "good government" to include an emphasis on practical solutions, responsiveness, and effective oversight.
Valeria	T7	Pelican	Teacher	HS Math teacher	No	Email address bounced back, could not locate contact info	
Vanessa	T5	Pelican	Teacher	MS Science Teacher	Yes	Approved	

Name ²²	No.	School	Role	Specific Role	Sent Excerpts?	Review Status ²³	Self-description
Whitney P	T11	Lake	Teacher	Advanced Elementary; parent of a former student	Yes	No response	
William	G9	Eagle Academy	Parent	Father of Charlotte (S1), Eagle Academy board member	Yes	Approved	[see Cynthia, G10]
	O1		Expert	formerly worked on cybersecurity and privacy for campus	No	No quotes	
	O2		Expert	Co-Founder and Exec Director	No	No quotes	
	O3		Expert	CISO	No	No quotes	
	C1	Falcon	Community	School Board	No	No quotes	

C = Community

E = Non-Instructional Employee

G = Guardian

O = Outside Expert

S = Student

T = Teacher

Appendix B: Sample Teacher Interview Guide

I have been interested in digitization in schools, including hybrid and online schools, for some time, especially for the opportunities they offer to alleviate some of the challenges facing students and teachers in traditional schools, and around what challenges exist in supporting students and teachers through these new models. Basically, what is happening in this emerging field and what can that teach us about education, schools, and the internet.

Now, I'm talking to people who are involved with different sorts of online and hybrid school programs to better understand the landscape. I have some questions prepared, but feel free to skip anything that you'd prefer not to answer. Do you have any questions for me before we get started?

- How did you get into working with online/hybrid schools?
- What would you say are the benefits of your school's format/approach?
 - What is a case where you've really seen those benefits?
- What are the greatest challenges facing your school's format/approach?
 - What is a case where you've seen those challenges?
- What would you say are students' reasons for choosing this type of school (and this one in particular)?
- Are many students coming from public in-person schools? Private? Homeschooling?
- What are teachers' reasons for teaching in this type of school (and this one in particular)?
- How does the local community a student is in influence their experience of the school?
- Can you describe what the experience of the virtual school is like on the student and the teacher side? Please walk me through what the platform is like for people using it, and what their overall interactions are like.
 - What are teacher – student interactions like?
 - Student – student?
 - Teacher – parent interactions?
 - Teacher – teacher interactions?
 - Teacher – admin interactions?
 - What kinds of data do teachers and administrators receive on students?
- What are disciplinary issues like with online schools?
 - Bullying
 - Cheating
 - Accessing forbidden content
- What strategies do teachers use to deal with the limitations in contact with students?
- What other questions should I be asking about this type of school?
- Who else would you recommend that I speak to about this type of school?

Appendix C: Biographical Positioning

“There is no unmediated photograph or passive camera obscura in scientific accounts of bodies and machines; there are only highly specific visual possibilities, each wonderfully detailed, active, partial ways of organizing worlds”

- Donna Haraway, “Situated Knowledges,” 583

“It is so easy to fall back on social imaginaries and idealized users – and especially on one’s own rosily remembered past – rather than grapple with the complications of real use by real people who might be quite different.”

- Morgan Ames, *The Charisma Machine*, 53

When I was eight years old, two very important things happened in my life. My mother moved to Asheville, North Carolina, while I continued to spend the majority of my time with my father in Chicago, where I’d been born and raised. And I signed up for an AOL account, which I was first able to use on the computer in the basement office of my father’s bookstore, and later, on shared desktop computers at both my parents’ houses.

On every school vacation, I shuttled to North Carolina, sometimes missing school days in the lead up to holidays, when most of the classroom time was spent on arts and crafts or watching seasonal films. Probably to my parents’ dismay, an ever larger portion of my time in both houses was increasingly spent online. When my mother and stepfather and I would go camping in their old VW van, I would miss both the excitement of being in chat rooms, and the friends I had left at home. I would daydream about what it would be like if I could go to school online, and somehow take the school with me on our long drives. I imagined combining the novelty of meeting kids from far away, the mystery and diversity of connecting from across the world that I had been introduced to on the internet, with the stability of knowing I could retain that same group of friends wherever I went. My world was rapidly expanding, online and off – I was experiencing places, cultures, and histories that were new to me, and this was prompting me to reflect on and appreciate those I had previously taken for granted, as well. But not being able to be effectively mobile while in school meant that I spent a large portion of my childhood desperately missing one of my parents. As I looked out the windows of the VW van or a plane from one town to another, I would wonder – what if it didn’t?