

What’s Lost, What’s Left, What’s Next: Lessons Learned from the Lived Experiences of Teachers During the Pandemic

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Abstract

To understand the experiences of educators during the 2020 extended school closures, we interviewed 40 teachers from across the country in public, charter, and private schools, at different grade levels and in different subject areas. Teachers articulated three main concerns about emergency remote schooling: (a) student motivation, (b) professional loss and burnout, and (c) exacerbated inequities. As the climate emergency makes school disruptions more common, school systems must learn from the tragic school closings under COVID-19 to prepare for an uncertain future. We propose five design considerations to build school systems with greater resilience for the long-term: center equity, focus on relationship-building, address student motivation, address staff motivation and burnout, and mitigate uncertainty.

Keywords: COVID-19, teachers, remote learning, school closures, equity

Students call Vanessa² “the Singing Math Teacher.” Before the pandemic, she was well-known for using songs, call-and-response, and rhythmic activities to help her fourth graders learn math. Across the country, she has been invited to share her unique pedagogies. But few of them worked over Zoom:

I’ve got 28 kids at 10 different achievement levels. I need to be able to touch them, to look at them, to say that one right word, to do whatever it takes. But I can’t. Oh, I’ve tried, I’ve tried. I promise. ‘Let’s sing this song,’ I’d say. But nothing synced. It was horrible.

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² All teacher names are pseudonyms. Where interviewees allowed us to post the de-identified transcript of our conversation (<https://osf.io/2fjtc/>), we have provided links to the source conversation. Some quotations are edited for clarity in this report; complete quotations are in the transcripts.

For Vanessa, remote instruction meant a terrible loss in her ability to help students learn, in her efficacy as a teacher, and in her sense of herself as a professional. These personal losses are part of the wider tragedy that unfolded around her classroom of students of color in an urban school district during the COVID-19 pandemic. Vanessa watched as disease, death, and the shift to online learning made the position of students, families, and communities of color even more precarious. “As a person who identifies as a Black woman,” she told our interviewer, “I am angry and terrified. None of these inequities are new and we’ve been saying this for a long time ... But especially living where I live, I am scared as hell.”

Vanessa’s struggles with remote learning during the COVID-19 pandemic are not unique. According to a number of national surveys conducted during the early phase of the pandemic, the majority of U.S. teachers harbored deep concerns about remote schooling during COVID-19. For example, in one poll, 86% of teachers worried about how children were doing during remote learning, with 76% believing that children were falling behind. Further, 83% of teachers reported that they, like Vanessa, were having a harder time doing their jobs (Page, 2020).

To understand more deeply the life experiences of the educators behind these survey results, we interviewed 40 teachers in April and May of 2020 who taught in schools across the United States in public, charter, and private schools at different grade levels and in different subject areas. Based on our conversations with teachers, three key themes emerged:

- **Student Motivation:** Teachers struggled to motivate their students through two layers of computer screens.
- **Professional Loss and Burnout:** As they lost familiar means of teaching, teachers also lost a fundamental sense of their own efficacy and professional identity.
- **Exacerbated Inequities:** This sense of loss grew deeper as teachers witnessed the dramatic intensification of the societal inequities that had always shaped their students’ lives.

Our primary goal was to build a rich description of teacher practice and professional life during this challenging period that could inform stakeholders at the classroom-level (teachers), school-level (school leaders), and district- and state-level (local and state school boards) tasked with re-opening schools in the 2020–2021 school year. However, the findings from our study give insight beyond the current school year—which is nearly halfway over with the virus still raging at the time of this writing—to future school shutdowns. In a world transformed by our climate emergency, schooling will be interrupted more frequently by disease, fire, extreme weather events, and armed conflicts, and school systems need to become more resilient to these kinds of interruptions (Kamenetz, 2022; Preston, 2021). Our findings have important insights for schools as we look ahead to the “new normal,” as findings are gleaned from a range of school settings at various grade levels across the country. We conclude this study with five recommended areas for school communities to address to create more resilient schools: center equity, focus on relationship-building, address student motivation, address staff motivation and burnout, and mitigate uncertainty.

Typical Practice of K-12 Teachers and Virtual School Teachers: Baselines for Comparison

Prior research provides a clear picture of what classroom teaching typically looks like, while there are gaps in the current understanding of teaching in virtual and remote settings. We detail present studies shaping our understanding of classroom and virtual or remote teaching.

Certain facets of traditional classroom instruction have been enumerated by prior educational research, including commonly used classroom structures and instructional models (Nystrand et al., 2003; OECD, 2020; TNTP, 2018). We know that teachers typically use a combination of whole class, small group, and individual practice or conference activities. Teacher lecture is common where most student interactions follow a recitation model: interaction, response, evaluation (Cazden, 2001). Further, student discussion and extended discourse is briefer and more infrequent than the learning science research on active learning suggests would be desirable (National Research Council, 1999). Schools with well-articulated instructional models—such as project-based learning or International Baccalaureate schools—are more likely to have instructional practices that deviate from these more typical routines (Mehta & Fine, 2019), but overall, teacher practice adheres to a set of identifiable routines (Kane et al., 2013). Despite the numerous studies conducted on classroom learning, our understanding of typical teacher practice is far from complete. What percentage of students are absent on any given day? What percent feel connected to their teachers and peers? How many students participate at all in class during a typical period, and how does that vary across grades and subjects? What percentage of time in a science class is spent in lecture and recitation versus labs and activities? For many of these more granular questions, we have some evidence, but not necessarily a robustly understood baseline against which to compare the deviations caused by emergency school closures. When analyzing emergency remote learning practice, the appropriate baseline comparison is not always clear or well-understood.

Despite the growth of virtual schools over the last two decades and their strikingly poor learning outcomes for students (Ahn & McEachin, 2017; Fitzpatrick et al., 2020; Loeb, 2020), research on the teaching practices that exist in virtual K-12 schools during non-pandemic times is quite thin. Limited evidence suggests that virtual schools typically operate with a primarily asynchronous learning model (Collom, 2005; Gregory, 2005; Toto, 1994), where teachers send home a combination of printed and online materials for students and families to proceed through at their own pace. In this “coached homeschooling” model, virtual teachers spend only a few hours a week in synchronous, whole class activities and spend the bulk of their time individually checking in with students and families and providing feedback (Loeb, 2020). Because of the limited research on K-12 virtual schooling practice, there are substantial gaps in our understanding of how pandemic teaching compares to the work of full-time teachers in virtual K-12 schools; thus, it can be difficult to untangle whether the challenges our interviewees faced were endemic to virtual teaching or an artifact of the emergency.

Early Evidence on Schooling During the Pandemic

The earliest forms of evidence about schooling during the pandemic have come primarily from three sources: analysis of policy guidance (Harris et al., 2020; Reich et al., 2020); surveys of students, teachers, and families (Kraft et al., 2020; Kurtz, 2020a; Page, 2020); and interviews from journalists and researchers with stakeholders and community members (Esquivel, 2020; Gewertz, 2020).

Examining state and district policy guidelines provides some sense of what was supposed to happen during extended school closures. State-level guidance called for schools to focus on meeting basic student needs around food and wellbeing, to continue learning through a combination of digital and non-digital channels, and to be attentive to issues of equity in developing responses (Reich et al., 2020). State policies universally called on schools to attend to the needs of students with disabilities, without providing much specific guidance on how that might happen (Reich et al., 2020). These policies differed as to the purpose of remote schooling, with some states emphasizing that students should make continued progress in standards-aligned curriculum and others encouraging enrichment, family projects, and review of previous material. Analyses of district policies suggested that several markers of affluence—such as broadband access, parental education, income-level—were correlated with more comprehensive district responses (Harris et al., 2020). Communities with more resources could muster more ambitious plans for remote learning.

Weeks after decisions were made about remote teaching plans, national surveys began to reveal many challenges being faced in new remote classrooms (Hamilton et al., 2020; Kraft et al., 2020; Kraft & Simon, 2020; Kurtz, 2020a, 2020b; Page, 2020; Samuels, 2020). During the first spring of the COVID-19 pandemic, a national USA TODAY/Ipsos poll found that a majority of parents (60%) and teachers (86%) expressed concerns about how children are doing during remote learning (Page, 2020). Teachers reported having a harder time doing their job remotely (83%) and believed that children were falling behind due to distance/remote learning (76%) (Page, 2020). Teachers in high-poverty and majority Black schools perceived these challenges to be the most severe, suggesting the pandemic further increased existing educational inequities (Kraft et al., 2020). With only 12% of teachers reported covering their full curriculum during spring 2020 remote teaching, there was substantial concern about the foundation set for fall of 2020 (Hamilton et al., 2020). A more recent nationally representative survey from the fall of 2020 demonstrated that many schools were offering at least some in-person learning, with hybrid models being the most common. However, student absences were increasing, teachers were working longer hours, and class sizes remained largely the same for fully in-person learning, despite social distancing recommendations (Kurtz, 2020a). Furthermore, there appears to be racial/ethnic differences among who was learning in-person versus remotely in fall of 2020, with Black, Latinx, and Asian parents indicating in a national EdWeek survey that their children were more likely to be participating in remote learning compared to Native and white parents (Samuels, 2020). As of November 2020, the percentage of teachers and school leaders who said that teacher morale was lower than it was pre-pandemic was at an all-time high of 84%, increasing from 71% in August and 56% in March (Kurtz, 2020b). Other surveys showed that teachers who could depend on their district and school-based leadership for strong communication, targeted training, meaningful collaboration, fair expectations, and

recognition of their efforts were least likely to experience declines in their sense of success (Kraft et al., 2020).

Several reports and surveys reinforce findings from policy analysis that remote teaching has been largely inequitable. There are significant gaps in home access to internet and digital devices along racial lines, with 81% of students in white-majority schools having adequate access to digital technology for remote learning, but only 66% of students in Black-majority schools having that access (Kraft & Simon, 2020). A similar divide is seen for socioeconomic status, with 87% of students in low-poverty schools having adequate technology access but only 64% of students in high-poverty schools having that access (Kraft & Simon, 2020).

Surveys and policy analyses can provide a snapshot of national trends, but understanding the lived experience of educators during the pandemic requires richer qualitative evidence. Journalists have been at the forefront of storytelling during extended school closures, and articles such as, “Exhausted and Grieving” (Gewertz, 2020) and “Inside Teachers’ Never-ending Crisis Shifts” (Esquivel, 2020), have featured stories of the extraordinary efforts that devoted educators put into making remote learning work as best as possible. Some of the early scholarly research has looked within disciplines, such as math (Horn & Schneeberger McGugan, 2020) and elementary science (Anderson & Hira, 2020), to provide thick descriptions of how teachers have adapted their practice to remote learning (Geertz, 1973). Throughout these reports, teachers describe ingenuity, but also substantial difficulty, in transitioning to remote instruction.

We extend these findings through analysis of 40 teacher interviews conducted in April and May 2020 with a diverse group of educators from across the United States working in different school types and across grade levels and subjects. Our study addressed one broad research question: What was the experience of teaching practice and teacher professional life during the initial extended school closures caused by the novel coronavirus?³

Conceptual Framework: The Importance of Teachers as a Key Driver of Learning Experiences and Organizational Behaviors

In order to understand and contextualize our findings, we employ a conceptual framework that underscores the key role that teachers play in creating learning experiences for students and driving organizational behaviors. Teachers play a fundamental role in schools and schooling and, as such, will be a major factor in the success of any pivot to remote instruction during extended school closures. Teacher practice represents one-third of what Elmore (1996) calls “the instructional core”: the interactions between student activity, teacher practice, and classroom resources that are the main, proximal determinants of student learning outcomes. Teacher practice goes beyond simply executing lessons; it includes creating lesson plans, grading student work, developing relationships with students, communicating with parents, and negotiating with colleagues and administration (Freire, 2008; Ladson-Billings, 2009; Lortie, 2002). All of these different components of

³ The full transcripts from 39 of the interviews are available for viewing at (<https://osf.io/2fjtc/>), and we invite other researchers with qualitative interview data from the pandemic to share their data at the same repository. Interested researchers can submit their data at the intake survey at <https://osf.io/46jm9> or contact the authors to have their data included.

teacher practice have been affected by the shift to remote instruction during the COVID-19 pandemic.

Additionally, teachers are key stakeholders in the organizational behavior of schools (Datnow, 2020), and the ability of schools to improve and change depends upon key aspects of the teacher experience. For example, research shows that effective school improvement often depends upon whether teachers feel safe and supported, whether they view administration as partners or adversaries (Handford & Leithwood, 2013), and whether they have opportunities to improve their instructional practice (Noonan, 2014). During the pandemic, parents, school leaders, and society have asked teachers to adapt to remote instruction, adopt brand-new online and hybrid teaching routines, and learn new skills and practices extremely rapidly. Teacher attitudes and beliefs about remote instruction, as well as their relational trust in various stakeholders to support them to do their jobs (Bryk & Schneider, 2002), are key factors in how schools adaptively respond to emergencies, and how successful those adaptations are in supporting students. Teachers' beliefs and trust in administration are particularly salient in public schools where teacher unions and administration negotiate decisions about school closures and reopenings and remote learning transitions and expectations.

To understand these dynamics in classrooms, schools, and communities, we need to understand what teachers are actually doing day-to-day in their virtual classrooms during extended school closures and how they feel about that work. In our study, we investigated the experience of teachers in classrooms, schools, and communities, starting by understanding actual teacher practice in virtual settings within the context of rapidly developing and rapidly changing school and district plans. Our interviewees described practices in their own terms, compared new practices and routines against the baseline of common practices in their school before the pandemic. Given the key roles that both teachers' mindsets and practices play in driving organizational behavior and changes, it is critical to understand how teachers understood their experiences in spring of 2020 in order for policymakers and school leaders to support these key stakeholders when future disruptions to school occur.

Methodology

Capturing the experiences and centering of the voices of teachers was the primary goal of our research approach. Therefore, we employed a phenomenological qualitative research methodology (Creswell, 2007) where we tried to describe how teachers across a variety of settings and contexts understood a phenomenon, in this case the PK-12 school shutdowns across the United States in 2020, via in-depth interviews. A benefit of this approach was that we received detailed descriptions through in-depth interviews in which teachers revealed how they experienced the shutdowns. We were then able to identify patterns across the experiences of teachers. In doing so, we were able to address our research question on the experience of teaching practice and teacher professional life during the initial extended school closures, while also situating our teachers' experiences within our conceptual framework that underscores their vitally important role in schools. Our approach, particularly our sampling strategy which we detail below, does not allow us to use positivist conceptions of generalizability that apply to all teachers across the United States. That said, we do believe our study will be "useful and believable" (Maxwell, 2013,

p. 122) to audiences that include teachers in particular, but also those trying to support teachers during COVID and beyond, including school and district leaders as well as policymakers at all levels.

Participant Recruitment

In April 2020, we began recruiting a convenience sample of teachers to participate in a one-hour interview about teaching practice during a pandemic. We recruited interviewees through three primary methods. First, the MIT Teaching Systems Lab, where several of the authors work full-time, maintains a mailing list of 25,000 educators in the United States, who have participated in five online courses that we have offered on the EdX platform. We distributed an invitation to all of these U.S. educators to complete an intake survey about their experience and subsequently to participate in an interview. Second, we reached out to educators on our social media networks. One of our authors is active in teacher organizing, and through this network we recruited progressive educators active in teacher unions, educational organizing, and social justice work. Third, we reached out to personal connections, including to leadership in a national charter network, often characterized as “no excuses” in philosophy, that allowed us to recruit teachers from that network.

Sample

In total we interviewed 40 teachers in all major regions across the United States (Northeast, Southeast, Midwest, Southwest, West), excluding Alaska, Hawaii, and the territories, and in all types of K-12 schools: public, charter, and private. One of the primary goals of our research was to inform the actions of teachers, school leaders, and local and state policymakers for the upcoming school year that starts in early August in some parts of the country. Therefore, we stopped at 40 teachers, not because we felt we had reached saturation, but for more pragmatic reasons including the need to analyze the data and present it in a policy report.

Additionally, we ensured that our sample included teachers from elementary, middle, and high school and across the disciplines in order to give district- and state-level policymakers insight into the experiences of teachers in classrooms across the K-12 spectrum. Furthermore, we made efforts to ensure our sample was racially and ethnically diverse, with a quarter of our teachers identifying as teachers of color. Finally, our percentage of female teachers (80%) is close to that of the teaching force as a whole: about 75–80% by most estimates (National Center for Education Statistics, 2020). Our sample was not designed to be perfectly representative of the K-12 teaching force across all parts of the country, but we believe that our findings satisfy the criteria of being “useful and believable” (Maxwell, 2013, p. 122) to various stakeholders who were trying to act on the experiences of teachers at the time as well as those who want to create more equitable and effective K-12 schools going forward.

Table 1, Table 2, and Table 3 show the demographic breakdown by subject domain, school level, school type, and teacher demographic information.

Table 1
Subjects Domain Taught and Subject Type of Participants

Subject Domain	Subject Type	<i>n</i>
Stem		
	Computer Science	1
	Math	2
		0
	Science	8
	Technology	4
Humanities		
	English Language Arts	1
		1
	History/Social Studies	8
	World Language(s)	4
	Music	1
	English Language Learning	3
Other		
	Special Education	2

Note. Totals exceed the number of participants, $n = 40$, due to several teachers teaching in more than one subject domain or course type.

Table 2
School Level and School Type Characteristics of Participants

		<i>n</i>
School Level		
	Elementary	12
	Middle	13
	High	21
School Type		
	Charter	9
	District Public	23
	Private	8

Note. Totals exceed the number of participants, $n = 40$, due to several teachers teaching across school levels.

Table 3
Participant Demographics by Gender and Race or Ethnicity

	<i>n</i>
Gender	
Female	32
Male	7
Non-binary	1
Race-Ethnicity	
American Indian or Alaska Native	1
Asian	3
Black or African American	3
Hispanic or Latino	2
Multiple Races/Ethnicities	1
White	30

Data Collection

We collected data through semi-structured interviews that typically lasted between 30–60 minutes. We conducted the interviews via Zoom or telephone due to both the pandemic and the geographic diversity of participants. For our interview protocol, the research team collectively created, revised, and finalized six broad questions based on our own experiences as K-12 teachers and educational researchers. Through our interview questions, we wanted to capture interviewees’ teaching experiences during the spring of 2020, which we believed could provide guidance to policymakers and others for fall reopening plans and beyond. The six questions are below and the full protocol is in Appendix A:

1. What was your school’s plan for addressing remote learning?
2. What did you actually do in your classroom practice?
3. What worked?
4. What didn’t work?
5. How did students, especially your vulnerable or marginalized students, respond?
6. What did you learn that could be applied for school reopening in the fall of 2020?

Our aim in these interviews was to piece together a thick description of teacher practice and professional life during the pandemic with special attention to insights that might be useful in developing school reopening plans.

In order to facilitate transparency and build a database of teacher experiences during the pandemic, we obtained consent from all interviewees to publish de-identified

transcripts of our interviews in an open repository. The full transcripts from 39 interviews⁴ are available for viewing at <https://osf.io/2fjtc/>, and we invite other researchers with qualitative interview data from the pandemic to share their data at the same repository. Interested researchers can submit their data at the intake survey at <https://osf.io/46jm9> or contact the authors to have their data included. Readers of this paper can see the full underlying data from our research.

Analytic Strategy

In our analysis, we used a multi-step, collaborative process to distribute the work while also recognizing patterns across interviewees' responses. First, using a deductive approach consistent with thematic analysis, we met to determine etic codes that we derived from our six broad interview questions: school plans, teacher practice, what worked, what did not work, student responses, and fall semester suggestions. Then, each research team member who conducted interviews applied those etic codes to the data from the interviews they conducted in qualitative analysis software (Atlas.ti).

While coding with etic codes, researchers also used an inductive approach where they added emic codes when unexpected insights and issues were voiced by participants. The research team again met to determine themes and patterns based on both etic and emic codes that appeared across all groups of interviewees. We decided on nine categories of important themes in participant responses: (a) student motivation; (b) teacher motivation and burnout; (c) teacher time, planning, and collaboration; (d) school schedules and routines; (e) vulnerable students; (f) technology; (g) parents and families; (h) socializing and relationships; and (i) preparing for fall planning. We then synthesized these nine themes into three key overarching categories of findings around equity, motivation, and professional loss and fatigue.

To address research bias and the validity of our inferences, we engaged in participant checks with our participants from whom we drew direct quotations, and we provided all of our participants with a link to the interview transcripts and a copy of our initial report hosted on the open repository (Maxwell, 2013). While we had a diverse group of teachers from a range of U.S. states, grade levels, school types, subject areas, and ethnic and racial backgrounds, we did not solicit a nationally representative sample of U.S. teachers, and we should expect that teachers in our networks who agreed to participate in interview research during a pandemic may differ in a variety of unobservable ways from a nationally representative sample. Our key findings, however, cohere with some of the widely reported observations of teacher practice during the pandemic (Hamilton et al., 2020; Kraft et al., 2020; Kraft & Simon, 2020). Furthermore, we believe findings have theoretical and provocative generalizability consistent with Fine's (2008) conceptions whereby, "theoretical notions or dynamics move from one context to another," and our findings provoke readers "to rethink and reimagine current arrangements" (p. 227). The mechanisms behind difficult challenges and the glimmers of effective new practice that we describe in our findings are valuable hypotheses and starting points for trying to understand how teachers have responded to an unprecedented crisis in U.S. education.

⁴ One interviewee feared reprisals from administration, so we refrained from uploading their transcript out of an abundance of caution.

Findings

Student Motivation: Challenges in Remote Learning

Student motivation is always a crucial ingredient of effective learning. During the pandemic, issues of motivation took on even greater urgency: how to get students to participate at all in remote learning, and then, once engaged, how to help them focus remotely amidst the distractions of home. Interviewees routinely discussed how much of daily life in schools could not be effectively replicated online. As Jennifer, a Florida kindergarten teacher, expressed it:

I really think it's just not seeing my students. We worked so hard in building that community and now nobody has that classroom community. I don't have the community of my students. My students don't have the community of their peers or their resource teachers. So I think it's just knowing that everybody is missing that community and school culture piece, and I can do as much as I can, but nothing is going to simulate that virtually.

For teachers working in settings where students had limited technology access, home settings with barriers to learning, and other challenges of a pandemic, a substantial portion of teacher energy could be consumed just by trying to maintain these relationships. As one high school teacher, Sofia, told us, “[I’m] just sending emails, seeing how they are doing, recording myself in video, sending it to them—just to keep them connected. That’s the goal. And teaching, learning new stuff? Forget it. Really, forget it, at least for me.” With limited time and energy available for synchronous online meeting, teachers faced trade-offs in their choices about their time allocation—time spent creating opportunities for connection, social and emotional support, and relationship-building was time that was not necessarily spent on content learning. For this teacher, until these relationships could be rekindled and reformed online, content teaching would have to wait.

Mediating Student Motivation: Relationship Building through Video Conferencing

For individual check-ins with students, teachers described their use of phone calls, text messaging, emails, and some use of one-to-one video conferencing. But for maintaining classroom relationships and the sense of shared learning and *esprit de corps*, teachers almost exclusively discussed Zoom (or other video conferencing tools). In particular, they discussed the developmental process of figuring out which teaching strategies could continue to work in video conferencing, which failed, and what new effective practices they discovered.

Teaching in a physical classroom is a sensory deluge, and experienced teachers know how to track students’ verbal and non-verbal cues about their understanding, engagement, and affect (Rodriguez & Fitzpatrick, 2014). Much of that visual and aural information gets filtered out through Zoom screens. Austin explained how video conferencing software like Zoom did not allow for the feedback he typically gets from students about what they are understanding and what they are not:

The most significant difference for me is the lack of feedback in a classroom setting in the digital sphere because when you're talking, body language feedback somewhat exists if you can see all the videos, but still is pretty hard. And there's sort of none of those, that nonverbal and some verbal communication that exists to help me manage levels of understanding and flows of the classroom and all of those things that consciously or unconsciously I'm aware of don't exist. And so that's been a struggle.

Despite these challenges, several teachers described their ongoing efforts to reforge classroom norms and communities online. Sarah observed that when video discussions worked, students felt connected and appreciated re-finding their classroom community:

They seem to appreciate when we find ways to actually engage in a full group discussion. And I'm finding that . . . if I can spark it, we can sort of maintain some pretty wide involvement and sort of sharing of carrying the conversation load for four or five minutes. And when that happens somehow, I was surprised to hear from students how much that mattered to them and how good that felt to them.

For several of our interviewees, these conversations were easier to facilitate in smaller groups. Some teachers split their classes in half to allow for more engaged, albeit less frequent meetings. Other teachers managed to make small group conversations work in breakout sessions.

On the other hand, many of the teachers we spoke with reported that video platforms like Zoom exacerbated ordinary adolescent self-consciousness. As Marina, a high school math teacher explained:

Imagine what it'd be like to be 16 or 17, staring into a screen that's zoomed in on your face the whole time. You're talking to the other kids in your class. You're staring into a video mirror, looking at what's wrong with your face . . . And I know the problem isn't the video. Because sometimes, after class is over, a couple of kids just want to chitchat, too, like we used to, or talk about Star Wars or whatever. And as soon as the other students leave, they'll turn their cameras on.

This self-consciousness is even more of a problem in those classes to which students often bring an especially sharp fear of looking unintelligent (Luttenberger et al., 2018). Marina went on to describe how virtual classes magnified her students' math anxiety:

If I thought they were shy when they were in ordinary class, trying to get them to engage with each other on Zoom is nearly impossible. Given the choice, they will not turn on their cameras or even their audio. They won't respond unless they're directly asked a question. They prefer to respond only in the chat, sometimes to the whole group—but often it's just a private message to me.

These issues are further exacerbated for students experiencing poverty. Several teachers reported that students either did not attend virtual sessions or did not turn on their cameras out of fear of giving their peers a glimpse into their homelife. One teacher, Sofia, who teaches in an affluent suburb that buses in students of color, many of whom come from working-class homes, told us that these students did not want to turn on Zoom because they did not want their wealthy peers to see inside their homes. The leveling effect of shared space in a school building could not be replicated on Zoom.

Learning Policy Guidance and Unintended Effects on Student Motivation

In our discussions with teachers, they identified two important areas where remote learning policy guidance had unintended consequences on student motivation. First, messaging and policies that emphasized core courses, particularly math and English language arts, pushed some students away from elective courses. One elementary teacher, Mary, reported that remote learning has forced them to “not touch science or social studies.” Judy, who teaches high school science electives, described how a growing focus on core content during the pandemic period drove students away from her classes. According to Judy, in the early period of the shutdown, students regularly attended and participated in her forensics courses, but as schools increased expectations for student learning in core content areas, students paid less attention to their electives and stopped attending her courses. These patterns mirrored findings from the era of standards-based accountability, where policy mandates to focus on certain core courses like English and math reduced teacher and student attention on a holistic curriculum (Berliner, 2011).

Second, many education stakeholders observed that assigning grades to or requiring attendance from students who lacked the infrastructure to participate in schooling seemed fundamentally unjust during a pandemic. As a result, many states, districts and schools implemented policies that relaxed expectations around grades, attendance, and other school requirements to accommodate students (Reich et al., 2020). In some places, this led to a second wave of student disconnection. In many schools and classrooms, teachers and systems depended upon these extrinsic motivational factors to compel and structure student participation in school, for better or worse. In their absence, teachers observed that students withdrew from remote schooling. As one teacher explained:

Without the structure of having to be in the school building at a certain time, it’s much harder to hold students accountable for being in any defined place at a defined time to do something, especially when they know the video of class is going to be on-demand afterwards.

While assigning grades during a pandemic seemed unethical, some teachers reported that they believed removing grading reduced overall participation. These extrinsic structures and positive and negative reinforcements were relaxed at the same time that some of the most compelling sources of intrinsic motivation for schooling also disappeared, such as the opportunities for socializing and relationship-building.

Learning from this experience, many school districts reimplemented grades and related expectations for the fall 2020 semester. In doing so, they saw the other side of this ethical dilemma at the end of the semester with skyrocketing failure rates concentrated among the most marginalized students in schools, including students with disabilities, students labeled

as English language learners, and students from low-income backgrounds (Thompson, 2020).

Professional Loss, Uncertainty, and Burnout

Amidst all of these challenges, another throughline from our interviews was one of loss, uncertainty, and burnout. Many of the teachers we talked to felt like the job they had known and loved—for decades in some cases—was lost in the transition to remote learning. As teachers suffered twin losses of thinner connections with students and colleagues and a diminished sense of professional competence and efficacy, they described that experience with words such as, “mourning,” “loss,” and “sadness.” For example, one middle-school teacher, Jen, who works with emergent bi- and multilingual students in an ELL setting expressed loss over the tailored, responsive teaching that she had to give up with the pivot to online learning:

I was mourning my plans. You know? I’ve had plans for this year since last year, and I spend a lot of time kind of tailoring it and designing it and it builds. So to get that kind of cut-off right at the end [of the year], it’s really sad. It’s really sad. So I’m a little bit sad giving up that creative aspect. It also cuts me out of the relationship with the students to a certain degree.

For Amy, an elementary math teacher working in a context where remote learning was reduced largely to independent student work, she declared that it wasn’t even the same job anymore: “I mean because it’s not teaching, it’s just assignments. I’m the assignment manager, always. I’m not teaching anymore. It’s boring. I hate it. They hate it. I really don’t want them to do it to be honest.” This feeling of isolation was even worse for those teachers whose districts could not set up online options, either for lack of technology or concerns about its unequal distribution. In these cases, teachers had no way to know what their students did (or didn’t do) with the paper workbooks they had been given. Teachers would write lessons and might make videos, but nothing would come back from their students: “It was like shouting into the void,” as one teacher said. When teachers and students were apart during remote learning, one teacher noted that, “we can’t witness their a-ha moment,” a part of the job that teachers value tremendously.

These frustrations compounded into teachers’ sense of professional identity and competence. As teachers struggled to do online learning well, they expressed guilt, frustration, and loss about their own inadequacies in these new formats. One 16-year veteran teacher, Brandi, who employs a student-led, debate-based pedagogy, told us the switch to remote learning made her feel like a “very terrible teacher” who is “awful at this.” She continued, “I mean, it’s tough to feel like anything’s working.” The loss of this professional identity could feel devastating: “Not being able to teach the way I really want to teach, or the way I know is most effective—that has been completely stripped away from me.”

Teachers are not well-compensated compared to similarly-educated peers (Allegretto & Mishel, 2016), and much of the reward of teaching comes from connecting with youth, being of service, and helping people learn and grow (Cammarota & Fine, 2008; Duncan-Andrade & Morrell, 2008; Lortie, 2002). School leaders looking to rebuild faculty

community during remote teaching during COVID-19 and beyond will need to attend to the loss of self-efficacy that teachers are feeling, en masse.

Changing Policies and Concerns about Accountability Affect Motivation

Compounding these difficulties, in some school settings routines and policies were changed frequently during the initial weeks of school closure, leaving teachers wondering what was coming next. Teachers reported that in some schools, expectations changed regularly, such that just as teachers started to get in the rhythm of some new remote learning routine, schedule, or practice, they would be expected to address different goals or policies that required changing routines. As one elementary school teacher, Mary, remarked:

I feel like I have reinvented my own wheel three or four different times. And then [District Name], definitely with the roll-out of phase two last Monday, things felt very different starting from the week preceding May4th. And there were a lot of changes with a very quick turnaround for a lot of them. So I am constantly feeling like I get settled, and then something changes and I have to get settled again.

This poses a tremendous challenge for school administrators, as teachers and students benefit from consistency. However, in the midst of great uncertainty, it is extremely difficult to make good policy choices. In the absence of experience, research, or well-established guidance on pandemic-learning, it is natural to try a range of approaches to see what works, but experimentation toward iterative improvement can easily become itself a disruption to emerging routines. One veteran teacher, Amy, described the process: “So it was constant ‘got you!’ It was constant ‘go back and redo.’”

After the initial confusion and uncertainty, teachers told us that many districts started to implement new measures that were ostensibly about supporting students, such as taking daily attendance, but soon felt like punitive accountability measures, particularly when coupled with tedious measures for teachers such as signing in to a districtwide system each day. Additionally, these accountability measures were not linked to opportunities for meaningful feedback and professional improvement. Several teachers questioned whether these data could support valid inferences, and whether they would be used to support teachers or to shame them:

It actually feels to me like these decisions aren’t actually about kids. It’s about adults. It feels to me like it’s about making sure that adults are earning their paycheck. And because we want to be sure that adults are earning their paycheck, we’re going to make them sign in to a Google Form every day and we’re going to make them submit a schedule of all the hours that they’re online. But that’s different than doing what’s actually right for kids.

Schools need data to effectively lead remote learning and teaching, but evaluation practices were more likely to be welcomed by teachers if they were tied to direct efforts to support teacher practice or professional learning as opposed to accountability measures untethered from opportunities for professional growth.

Ill-defined Boundaries and a Loss of the “Magic” of School

While the job got harder and less psychologically rewarding for some teachers, it also had ill-defined time boundaries. Remote teaching became a 24 hour, seven-day-a-week job for some teachers: advocating for students, responding to queries, redesigning curriculum, providing feedback, and teaching lessons at all hours of the day or night—often while homeschooling their own children—and without the natural breaks of daily pre-pandemic life, such as commuting or walking the halls. As one teacher, Mary, told us:

I spent intentional time in the beginning of my career where I was learning to call it a day. I was learning to leave it at the door. I was learning to take space and reflect before adjusting and all of that is gone. So I am learning a fundamentally new way of being an employee, of being a teacher, and of being a person in trying circumstances.

Online connections could also transcend physical boundaries, and some educators benefitted from these changes. For teachers (and students) with social anxieties, working from home was a welcome relief. Some schools implemented common planning time for teachers, where educators working in the same grade level or subject area worked together to develop effective curriculum or teaching routines. In an interview with an instructional coach, the coach described how remote learning allowed coaches to move more seamlessly from one virtual classroom to another virtual classroom, without needing to travel between physical classrooms and buildings.

But in most cases, teachers mourned the loss of what makes school enjoyable, even “magical” in the words of one teacher, when transitioning to remote learning. Returning to in-person schooling during and after a pandemic will not merely be a technical exercise of ordering masks, measuring desk spaces, and arranging hybrid classes. Effective school leaders will need to attend to “the human side of school change” (Evans, 1996) and work with teachers to address and mitigate feelings of professional loss and mourning alongside the potentially grinding, tiring effects of extended school closures in a second (or third) wave. Whether schools have adopted remote, hybrid, or in-person (but masked and distanced) settings—which we have already seen can change due to surges in the virus in the fall and winter of 2020—the emotional toll of change will need to be compassionately addressed.

Existing Inequities Exacerbated

U.S. schools are plagued by inequitable conditions, particularly along lines of race, class, language, and disability (Meyer et al., 2013; Rosa & Flores, 2017; Valenzuela, 2016). These divides that existed before the pandemic were exacerbated during school shut-downs in the spring of 2020. The barriers to accessing remote learning for families from low-income backgrounds in communities of color were significant. In addition to technological barriers (e.g., lack of access to devices and reliable broadband internet), students faced new COVID-19-related challenges such as taking on a new job, extra hours at an existing job, or taking care of younger family members as parents and caregivers went off to work and schools could no longer serve children. When we asked James, a high school math teacher,

what got in the way of his students attending synchronous classes, he answered: “Life.” Marina explained the conditions and responsibilities that interfered with remote learning:

My students are living in situations where it’s four or five to a one-bedroom, with kids sleeping on the couch in the living room or on the floor. It might be two families sharing a two bedroom. Nine people total with only one bathroom. And during the day, other kids might be dropped off, maybe cousins who are there from seven in the morning until five for babysitting. I have kids who call or Zoom in from their closet because it’s the only space they have that’s somewhat private.

Many districts recognized the need to find out which students needed devices or stable broadband access and quickly surveyed their families. Educators, however, soon discovered that having a device in their home did not guarantee that students would be able to get access to it ahead of all the others in their household. Brandi explained how one student struggled to connect because of device and internet access issues:

I have kids that still don’t have working technology and we’re in week eight. And we’ve been trying and trying and trying. There are real basic infrastructure issues to doing online learning that I think people don’t want to acknowledge and they want to pretend that we can just pick up where we left off, and well, we can’t [O]ne of my kids, he literally has not had access. He has a Chromebook, then he didn’t have the internet. Then he got a hotspot but the hotspots are really weak and so none of the files load for him. So he’s connected, but not really, right? And at this point . . . I don’t even know what to tell him. This isn’t his fault, you know?

In many families, these barriers often compound. Students with cramped housing are the same students with limited technology access, with parents who are essential workers, or with additional childcare or work responsibilities. Teachers spent much of the first couple of weeks of school shutdowns trying to track down students who were not participating in remote learning, using a variety of methods that included making phone calls to students and families, texting them, and reaching out via social media.

Compounding Challenges for Language Learners and Disabled Students⁵

State policy guidelines issued early in the pandemic emphasized the importance of addressing the needs of English learners and disabled students, but those documents typically provided little specific guidance about how to do so (Reich et al., 2020). On the ground, teachers and other educators needed to invent new support systems to replace those developed in physical school buildings.

For instance, the demand and need for translation skyrocketed as schools put their entire programs online, and some teachers reported school and districtwide information being sent out only in English. Bonnie explained that the informal, on-campus supports for English language learners were particularly difficult to replace:

⁵ We use identity-first language in line with many disability rights advocates, though we know and respect that others use person-first language.

We have children who speak different languages, and I think the thing that we're worried about as a school is whether there is something we can do to help them with translation or getting them the right resources. And I think with the problems with communication with some of the families that we still can't get in touch with, I think that's a big worry. Do they have the support somewhere? Do they know where to go? I mean unfortunately even our secretaries and principals are working remotely so there isn't even a physical body at the school right now. Whereas before if something comes up or they got a piece of mail or something, they would just walk into the office and we could help.

Another ESL teacher, Jen, reported that one of the standardized online solutions her Kentucky district provided was not designed for those learning English, so her students were just "clicking buttons on [the] program, and they really require something different." New technology-mediated learning routines needed to be modified to support English learners.

Disabled students—poorly supported by schools in general in the best of times (Hehir, 2005)—were not well-served through remote learning either. As one teacher, Marianne, stated about the pivot to remote teaching: "Special ed is a huge mess. Huge." Again, difficulties often compounded for the most vulnerable students, as Washington, D.C. elementary school teacher Carla explained: "And there are some students who also have learning differences and ADHD and speech delay and what not, and they're really struggling. And a lot of it's because of the isolation. A lot of it is because they're scared." Anxiety, social isolation, and other pandemic-related afflictions added to the challenges of serving disabled learners.

As teachers talked about the struggle to provide the reading, writing, and mathematical supports to which students are legally entitled when providing remote teaching, they also described their incremental, iterative efforts to build new systems that worked better. As Austin explained:

My students with attentional difficulties or focus difficulties, this is a really challenging setting for them because it's easy to be distracted at your computer. It's easy to be distracted when you're not in a physical environment that I'm part of and that I can prompt and remind. So somewhat I've just worked on adjusting expectations. We've tried not to do anything that's instructional for longer than 10 to 15 minutes. Even that's kind of long. The homework system that I use has a support system where you can link video instruction to every assignment you give. So every assignment I give has additional support instruction. So if you didn't get a concept the first time, then you've got that ability.

Here, the teacher described some of his iterative efforts to transition his teaching strategies to remote learning, replacing some of his pre-pandemic techniques that no longer worked (when he could "prompt and remind") to revisiting expectations on pacing ("10 to 15 minutes") and developing supplemental resources for the online homework system. Throughout our interviews, we heard these kinds of short stories of creativity and innovation in developing new workable routines, but even the best of these efforts moved slowly relative to the dramatic scope of students' learning challenges.

The Struggle to Address Diverse and Conflicting Needs

In several cases, teachers reported that policy efforts to create a sense of stability, routine, and normalcy created acute equity issues in schools with the fewest resources and students with the greatest needs. Early in the pandemic, state-level policymakers wrestled with whether to focus on continued coverage of standards-aligned content—basically teaching class as normal—or whether to shift to review, enrichment, and learning goals that steered away from trying to maintain pre-pandemic expectations. One of our teachers, Brandi, worked in a state (Massachusetts) where policy guidance shifted mid-pandemic from an enrichment approach to a standards-aligned progress approach, and she argued that the new guidelines might “fly” in well-resourced schools and districts, but not in her under-resourced district, where pressing ahead with Zoom teaching was not engaging vulnerable students:

I have kids who show up to every Zoom by every teacher every day. They’re the kids I’m least worried about. I am profoundly worried about the kids who aren’t showing up to anything or doing anything and I just feel like in this model, literally there is zero attention to that group of students. And so it’s like: cool, let’s just create a system that exacerbates all of the—you were already struggling with engagement, you were already really vulnerable, and now we’ve just blown all of that up and we have zero plan for what to do for you.

Another way to frame this argument is that needs in schools are both diverse and conflicting. The policy suggestion to focus on pre-pandemic standards and course pacing was predicated on the idea that many typical students benefit from the routines, schedules, and expectations that schools offer. But there have always been students poorly served by those models, and this teacher argued that the students least supported by schools in normal times might have been particularly alienated or marginalized by a return to those models without many of the supports that could help make schools work for struggling students.

In sum, the pandemic exacerbated already-existing inequalities, and the leveling effect of a shared school building was lost as students worked each day from wildly inequitable home settings. Remote learning worked least well for the students who needed the most support. For teachers who approached their work through an equity or social justice lens, the inability to support the most vulnerable students was demoralizing, and policies that put the needs of so-deemed average students ahead of the needs of the most vulnerable students felt particularly unfair, unwise, and unwarranted.

Discussion: Planning for Resilience and a Future of Interrupted Schooling

The COVID-19 pandemic has been a tragedy for millions of students and families, and an extraordinary burden on teachers. Sadly, it is unlikely to be the only major school disruption of the 21st century. As we raise global surface temperatures and sea levels and transform the geochemistry of the planet to be inhospitable to human civilization, schools will face future pandemics, fires, floods, and extreme weather events that make school closures more common (Kamenetz, 2022; Preston, 2021). School systems need to learn

from the lessons of this tragedy to build systems that are more robust and resilient to future disruptions. Findings from the teachers in our study have important implications for policymakers, school leaders, teachers, and others who may need to design effective and equitable remote learning and teaching conditions going forward. Below, we identify five design considerations that should be at the center of efforts to prepare future remote and hybrid learning plans for interrupted schooling. We summarize these recommendations and highlight key organizational champions in Table 4 (recognizing that all school change efforts benefit from involvement at all levels), and describe the recommendations more fully below.

Table 4
Recommendations for Addressing Challenges of Interrupted Schooling

Recommendation	Challenge Addressed	Proposed Organizational Champions
Center Equity	Exacerbating Inequities	Whole-of-system effort
Focus on Relationship Building	Maintaining Student Motivation	Teachers, supported by school leaders and staff
Address Student Motivation	Maintaining Student Motivation	Teachers and Principals, supported by district staff
Address Staff Motivation and Burnout	Professional Loss, Uncertainty, and Burnout	Principals, supported by district staff
Mitigate Uncertainty	Professional Loss, Uncertainty, and Burnout	District staff, supported by principals

Note. Recommendations are organized by challenge addressed and proposed organizational champions for leading change effort.

Design Consideration #1: Center Equity

Schools in the United States mirror the deeply inequitable greater society. This was true before the pandemic, and teachers told us that it got worse with the shift to remote learning. As one teacher, Brandi, echoing others rightly pointed out, it should not have taken a pandemic to make substantial collective efforts to ensure people’s basic needs were being met and that students have everything they need to learn and be healthy:

The problem in our school system is the bones are broken . . . or nonexistent. Like we don’t even have bones . . . So we are trying to act like everything is normal

when we never did the work needed to have strong bones in the first place. And so I think if I were in those rooms [with policymakers] I would want to talk about the bones, which is I would want to talk about infrastructure. I would want to talk about communication structures. I'd want to talk about comprehensive mental health services. I would want to talk about, what is our plan for our tier three kids? How do we make sure that we have designed a system that meets the needs of the most extreme users? Let us imagine out and build out, for the most struggling person in the system, what would all need to be in place for this to actually work. And if we did that, then I think it could work for everybody. But the way we're doing it right now is we are not even scratching the surface of what kinds of infrastructure and supports would need to be in place for our most vulnerable learners. And we think that doing things like giving them a Chromebook is a solution. And the Chromebook is not the solution. Technology is not the solution there . . . the solutions are a lot more human.

This same teacher wondered what will happen when things go back to normal—will those supports go away? Based on the beliefs and experiences of the teachers with whom we spoke, we strongly argue that the answer to this question must be “no.” Policymakers and school leaders must focus on the “bones,” or the school and community infrastructures, necessary to support students and families. Every effort needs to be made—including what will no doubt be dramatic increases in funding and resources—to attempt to rebuild and reopen after a pandemic, war, or natural disaster with comprehensive supports for youth and families that address nutrition, health, housing, and mental wellbeing as pre-requisites for effective learning. No easy answers exist in addressing and dismantling the inequitable environments in which our young people learn, particularly students from disenfranchised groups. The starting point for school reopening plans—during the ongoing pandemic-related school closures and beyond—should be designing learning environments for our most disenfranchised students. As Brandi stated above, we should be centering equity in our schools during non-pandemic times, which is among the most powerful ways of preventing widening inequalities during disasters and school interruptions.

Design Consideration #2: Focus on Relationship-building

We consistently heard from teachers that online relationship-building is hard but essential. Given the timing of the March shutdowns, teachers, staff, and school leaders had already had six to seven months to build relationships with students and to create community among students. As freshman biology teacher, Alisa, said, “I feel really fortunate that I had my students for two trimesters before this one because I had relationships with them and I knew them.” This was not the case for schools who began the school year with remote learning in the fall of 2020, and it was likely more challenging than usual for teachers who may have only seen students two to three times a week in hybrid models. The same holds true for future events that cause teachers, students, school leaders, and others to begin the school year in part or completely remotely.

The temptation for many in these situations will be to plow full speed ahead into academic learning, particularly if our students have missed out on weeks and months of formal learning already, as they did due to the COVID-19 shutdowns last spring. However,

based on what we heard from many teachers, we argue that this would be a mistake. As so many of our teachers pointed out, without relationships, academic learning simply does not happen in most cases, and efforts to speed up in order to catch students up would be counterproductive. Instead, we would recommend placing relationship-building at the center of what schools do for the first phase of school reopenings after a pandemic or other disaster, whether remotely or in-person.

Some of the techniques that teachers use to connect with students and to connect students with each other are difficult if not impossible to replicate online. Educators should continue to develop effective practices with video conferencing, while also exploring other platforms for online connection, perhaps looking at communities built through social media and gaming platforms for inspiration. Asynchronous video sharing (through sites such as FlipGrid⁶ or Voicethread⁷) might be a way for younger students to share a beloved item from home or for older students to present on an issue in their community they care about and want to take action to change, but only after producing media they feel comfortable sharing with peers. Synchronous singing online may not be possible, but students submitting songs and videos they created individually around math problems and uploaded for the teacher and peers to review and enjoy may be. Of course, we do not mean to minimize what has been lost, but we know teachers are endlessly creative and we believe they will find new outlets that exemplify some of the learning and engagement principles that are present in in-person learning. Many of the means by which teachers can create community through remote learning are yet to be discovered, but centering relationship-building in design plans for starting a school year—in-person, hybrid, or remote—is essential during and after prolonged school closures.

Design Consideration #3: Addressing Student Motivation

Many of our teachers reported that the loss of structures and requirements—grades, attendance, and other expectations—reduced their effectiveness. One response to this difficulty might be for school systems to simply reinstate all of these expectations if and when schools reopen after an extended closure. But recall that these policy changes in response to the COVID-19-related shutdowns were initially spurred by concerns about equity and fairness. While from a utilitarian perspective, it may be that schools can compel greater attendance, work production, and so on from more students with these structures, these policies could still put teachers in the position of failing or punishing learners because society has not provided students or their families with adequate resources to participate in online or hybrid learning—or even fully in-person schooling, for that matter. Indeed, this appears to be exactly what is occurring in the 2020–2021 school year, where many districts are reporting dramatic increases in failure rates (Thompson, 2020).

An alternative response would be for schools to substantially ramp up their efforts to foster intrinsically-motivated students and learning during pandemic schooling and beyond. We interviewed one teacher, Angela, whose classroom was a model of student-centered, engaged learning. She had strong relationships with students prior to COVID,

⁶ <https://info.flipgrid.com>

⁷ <https://voicethread.com/>

and when COVID hit, she developed learning experiences that attended to students' interests and motivations. As such, her classroom participation was largely unaffected by the transition to remote learning. For synchronized learning sessions, she often brought in guest speakers such as community leaders, writers, artists, and other informal educators to discuss social justice issues relevant to the community. She said that, of her approximately 90 students, only a handful would not be present on the Zoom sessions, and parents and grandparents would often sit in and learn alongside the students from the guest speakers. Her classroom stood out as a powerful example of how interest-driven learning can be sustained online. During and after COVID, some if not many schools may be in a position to make a major shift away from extrinsic rewards, punishments, and other mechanisms of control; they may be able to use the pandemic to emphasize pedagogical models that engage students more through deep relationships, learner agency, and interesting teaching and learning, rather than the typical toolkit of compliance.

Many schools, however, will likely feel compelled, if not be required by those in power, to return to the grades, attendance requirements, and other structures that were relaxed in the spring of 2020 and may be relaxed in future school closings. If schools face widespread shutdowns due to additional waves of the virus or for other reasons, however, the moral dilemmas that compelled relaxed expectations will still be present. To address these dilemmas, we offer three suggestions. First, support students and families in obtaining the infrastructure for home learning. As students return to school buildings, use those face-to-face connections to help students and families prepare for a second shutdown. Second, consider retaining some of the flexibility offered during the spring 2020 school closures without broadcasting it so widely. Communicate policies to students and families that set high expectations for grades, attendance, schoolwork quality and so forth, but be prepared to negotiate those expectations individually with students who face substantial challenges to participation. Consider competency-based or mastery approaches to learning and assessment that emphasize a student's final progress against expectations versus the specific pathways by which students achieve those goals. Illinois offered guidance on grading during remote schooling that emphasized learning over compliance (Figure 1). While this was particularly useful during remote instruction, we argue that this approach to grading is more equitable, effective, and compassionate at all times, remotely or in-person. Finally, build faculty strength around pedagogical models that depend less on compulsion and more on student motivation and autonomy. The best way to avoid punishing students for struggling to participate in schooling is to make schooling so engaging that they choose of their own volition to overcome those struggles.

Figure 1

Grading policy recommendations from Illinois

Essential Grading Recommendations
<ul style="list-style-type: none"> • The emphasis for schoolwork assigned, reviewed, and completed during the remote learning period is on learning, not on compliance • Grading should focus on the continuation of learning and prioritize the connectedness and care for students and staff. All students should have the opportunity to redo, make up, or try again to complete, show progress, or attempt to complete work assigned prior to the remote learning period in that time frame. A focus on keeping children emotionally and physically safe, fed, and engaged in learning should be our first priority during this unprecedented time.

Note. See p. 2 of <https://www.isbe.net/Documents/RL-Recommendations-3-27-20.pdf>

Design Consideration #4: Addressing Staff Motivation and Burnout

School leaders face a daunting challenge in managing expectations and fostering motivation among their faculty at all times but particularly during pandemic teaching. As is appropriate, many school and district leaders during the summer of 2020 were focused on the first days of school in August and September and figuring out how to get the year off to the best possible start. But leaders also needed and continue to need to support teachers throughout and beyond the full duration of extended school closures.

A typical school year has natural ebbs and flows. Teachers are energized as routines settle in during October, things sometimes go off the rails between November and December breaks, there can be a burst of energy in January as school comes back, and a slide returns in the waning weeks of May and June. Throughout it all, the silliness and joy of students, the small breakthroughs of learning, the deepening relationships with peers and colleagues, the sense that classes are falling into productive rhythms all contribute to teachers' professional energy and motivation. These sources of professional satisfaction are at risk in any school year, including the current one, marked by increased use of distance learning and fewer opportunities for face-to-face relationship-building.

Our findings offer important clues to address these challenges. Managing teacher workload and stress level will be important during extended school closures. Administrators need to support teachers in taking care of themselves and setting some boundaries around time expectations—while still working together across faculty to make teachers available to students at whatever hours they may be working. Several teachers commented on the efficacy and professional satisfaction of collaborative planning, and schools should consider emphasizing structures that let teachers work together to solve common problems. If low-residency use of buildings limits opportunities for teachers and students to socialize and get to know one another because of shutdowns and social distancing requirements, extended school closure plans should include additional virtual opportunities for building relationships through advisories, extracurricular activities, office hours, or other structures.

All educators interviewed hoped that the crash course in remote learning from the spring of 2020 will lead to a more effective academic year in 2020–21. Ideally, schools will have built on these experiences, developed effective hybrid models, be better prepared for waves of closure, while continuously improving as the year goes on. But schools also need to prepare for a trying, tiring year in the midst or after school shutdowns due to pandemics or other events. School leaders will need to address the factors that most hindered teacher effectiveness and wellbeing during the spring of 2020, to anticipate that a year of possible remote or hybrid schooling may have fewer professional rewards and more difficulties than a typical year, and to plan programming designed to support educators and their students through a long, challenging process.

Design Consideration #5: Mitigating Uncertainty

The final design challenge has to do with balancing stability and experimentation. Some of our interviewees' most sharply-worded frustrations were directed at school, district, or state changes in policy, expectations, or goals. Students and teachers need to

develop stable routines for effective learning, but teachers cannot develop stability if administrators are constantly changing expectations.

However, prior to 2020 no school in the United States had reopened for a new school year amidst a pandemic—it was not possible for school systems in advance of the 2020–21 school year to make every decision about school policy and programming correctly, though they now will have experience when future shutdowns occur. Some administrative choices will no doubt have been wrong or misguided, and schools need to be able to experiment to iteratively develop more effective practices this school year and beyond. Of course, one administrator’s “iteration towards effective policy and routines” is another teacher’s “constant, incoherent shifting of expectations and norms.”

One approach to balancing these tensions during extended school disruptions is for teachers and administrators to negotiate boundaries and target areas for experimentation and improvement. Faculty and leaders should agree on certain parts of the system that as much as possible are held constant over an extended period. From our conversations, the weekly schedule and technology infrastructure are two of the places where teachers hoped to see clearly communicated, simply-designed, and consistently-maintained expectations. Other parts of a remote learning infrastructure can be iteratively improved if the foundations are held constant. Schools may also want to consider adopting a yearly schedule that has more clearly demarcated points for bigger changes. Schools might break a typical semester into quarters or eighths, with expectations that things will be held relatively constant within each period, and students, families, and teachers can expect bigger changes in expectations at those well-defined, scheduled transition points. Schools will not get all of their re-opening decisions right, and effective leaders need to work with faculty and other stakeholders to experiment and make iterative improvement without driving teachers, students, and families to frustration with constant change.

Conclusion

Our conversations with 40 educators from across the country highlighted themes about expanding inequality, the challenges of maintaining student-teacher relationships online, and the psychological toll that teachers have experienced under remote learning. These issues are important for planning for future disruptions. However, the issues that educators found salient during this emergency can also be addressed in normal times. School systems are not merely technical assemblages, and human emotions and relationships are at the heart of the learning enterprise. Continuing to listen to educators and understand the complexity of their lives and work during this pandemic and in future school disruptions will be essential to mounting an effective response in the near term and to building more humane, robust, resilient systems in the long term.

References

- Ahn, J., & McEachin, A. (2017). Student enrollment patterns and achievement in Ohio's online charter schools. *Educational Researcher*, 46(1), 44–57. <https://doi.org/10.3102/0013189X17692999>
- Allegretto, S., & Mishel, L. (2016). *The teacher pay gap is wider than ever: Teachers' pay continues to fall further behind pay of comparable workers*. Economic Policy Institute. <https://www.epi.org/publication/the-teacher-pay-gap-is-wider-than-ever-teachers-pay-continues-to-fall-further-behind-pay-of-comparable-workers/>
- Anderson, E., & Hira, A. (2020). Loss of brick-and-mortar schooling: How elementary educators respond. *Information and Learning Sciences*, 121(5/6), 411–418.
- Berliner, D. (2011). Rational responses to high stakes testing: The case of curriculum narrowing and the harm that follows. *Cambridge Journal of Education*, 41(3), 287–302. <https://doi.org/10.1080/0305764X.2011.607151>
- Bryk, A. S., & Schneider, B. (2002). *Trust in schools: A core resource for improvement*. Russell Sage Foundation.
- Cammarota, J., & Fine, M. (2008). Youth participatory action research: A pedagogy for transformational resistance. In J. Cammarota & M. Fine (Eds.), *Revolutionizing education: Youth participatory action research in motion* (pp. 1–11). Routledge.
- Cazden, C. (2001). *Classroom discourse: The language of teaching and learning* (2nd edition). Heinemann.
- Collom, E. (2005). The Ins and Outs of Homeschooling: The Determinants of Parental Motivations and Student Achievement. *Education and Urban Society*, 37(3), 307–335. <https://doi.org/10.1177/0013124504274190>
- Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). SAGE.
- Datnow, A. (2020). The role of teachers in educational reform: A 20-year perspective. *Journal of Educational Change*, 21(3), 431–441. <https://doi.org/10.1007/s10833-020-09372-5>
- Duncan-Andrade, J. M. R., & Morrell, E. (2008). *The art of critical pedagogy: Possibilities for moving from theory to practice in urban schools*. Peter Lang.
- Elmore, R. (1996). Getting to scale with good educational practice. *Harvard Educational Review*, 66(1), 1–27. <https://doi.org/10.17763/haer.66.1.g73266758j348t33>
- Esquivel, P. (2020, April 24). Inside teachers' never-ending crisis shifts: 'You just keep going all day and all night.' *Los Angeles Times*. <https://www.latimes.com/california/story/2020-04-24/coronavirus-teachers-distance-learning-shifts>
- Evans, R. (1996). *The human side of school change: Reform, resistance, and the real-life problems of innovation*. The Jossey-Bass Education Series.
- Fine, M. (2008). An epilogue, of sorts. In J. Cammarota & M. Fine (Eds.), *Revolutionizing education: Youth participatory action research in motion* (pp. 213–234). Routledge.

- Fitzpatrick, B. R., Berends, M., Ferrare, J. J., & Waddington, R. J. (2020). Virtual illusion: Comparing student achievement and teacher and classroom characteristics in online and brick-and-mortar charter schools. *Educational Researcher*. <https://doi.org/10.3102/0013189X20909814>
- Freire, P. (2008). *Pedagogy of the oppressed* (30th anniversary ed.). Continuum.
- Geertz, C. (1973). Thick description: Toward an interpretive theory of culture. In *The interpretation of cultures: Selected essays* (pp. 3–30). Basic Books.
- Gewertz, C. (2020, April 17). Exhausted and grieving: Teaching during the Coronavirus crisis. *Education Week*. <https://www.edweek.org/teaching-learning/exhausted-and-grieving-teaching-during-the-coronavirus-crisis/2020/04>
- Gregory, E. R. (2005). *Curriculum and the status of physical education in homeschooling* [Doctoral thesis, Syracuse University]. <https://search.proquest.com/docview/305383244?pq-origsite=gscholar>
- Hamilton, L. S., Kaufman, J. H., & Diliberti, M. (2020). *Teaching and leading through a pandemic: Key findings from the American Educator Panels spring 2020 COVID-19 surveys*. RAND Corporation. https://www.rand.org/pubs/research_reports/RRA168-2.html
- Handford, V., & Leithwood, K. (2013). Why teachers trust school leaders. *Journal of Educational Administration*, 51(2), 194–212. <https://doi.org/10.1108/09578231311304706>
- Harris, D. N., Liu, L., Oliver, D., Balfe, C., & Slaughter, S. (2020). *How America's schools responded to the COVID crisis*. Annenberg Institute at Brown University. <https://www.edworkingpapers.com/ai20-262>
- Hehir, T. (2005). *New directions in special education*. Harvard Education Press.
- Horn, I., & Schneeberger McGugan, K. (2020). *Experienced urban mathematics teachers' learning to teach amidst the COVID-19 pandemic*. https://osf.io/zcwa9/?view_only=95d825293837460bb6d8414cd89b042e
- Kamenetz, A. (2022, March 21). This school wasn't built for the new climate reality. Yours may not be either. *NPR*. <https://www.npr.org/2022/03/21/1084912552/climate-change-schools>
- Kane, T. J., McCaffrey, D. F., Miller, T., & Staiger, D. O. (2013). *A composite estimator of effective teaching*. Bill and Melinda Gates Foundation. <http://k12education.gatesfoundation.org/resource/have-we-identified-effective-teachers-validating-measures-of-effective-teaching-using-random-assignment/>
- Kraft, M. A., & Simon, N. S. (2020). *Teachers' experience working from home during the COVID-19 pandemic*. https://f.hubspotusercontent20.net/hubfs/2914128/Upbeat%20Memo_Teaching_From_Home_Survey_June_24_2020.pdf
- Kraft, M. A., Simon, N. S., & Arnold Lyon, M. (2020). *Sustaining a Sense of Success: The Importance of Teacher Working Conditions During the COVID-19 Pandemic* (EdWorkingPaper No. 20-279). <https://www.edworkingpapers.com/ai20-279>

- Kurtz, H. (2020a, October 16). In-person learning expands, Student absences up, teachers work longer, survey shows. *Education Week*.
<https://www.edweek.org/leadership/in-person-learning-expands-student-absences-up-teachers-work-longer-survey-shows/2020/10>
- Kurtz, H. (2020b, November 5). Educator morale, school job applicants declining, survey shows. *Education Week*. <https://www.edweek.org/teaching-learning/educator-morale-school-job-applicants-declining-survey-shows/2020/11>
- Ladson-Billings, G. (2009). *The dreamkeepers: Successful teachers of African American children* (2nd ed.). Jossey-Bass Publishers.
- Loeb, S. (2020, March 21). How effective is online learning? What the research does and doesn't tell us. *Education Week*.
<https://www.edweek.org/technology/opinion-how-effective-is-online-learning-what-the-research-does-and-doesnt-tell-us/2020/03>
- Lortie, D. C. (2002). *Schoolteacher: A sociological study*. University of Chicago Press.
- Luttenberger, S., Wimmer, S., & Paechter, M. (2018). Spotlight on math anxiety. *Psychology Research and Behavior Management, 11*, 311–322.
<https://doi.org/10.2147/PRBM.S141421>
- Maxwell, J. A. (2013). *Qualitative research design: An interactive approach* (3rd ed.). SAGE.
- Mehta, J., & Fine, S. (2019). *In search of deeper learning: The quest to remake the american high school*. Harvard University Press.
- Meyer, A., Rose, D. H., & Gordon, D. (2013). *Universal Design for Learning: Theory and Practice* (1st edition). CAST Incorporated.
- National Center for Education Statistics. (2020, May). *Characteristics of public school teachers*. IES NCES National Center for Education Statistics.
https://nces.ed.gov/programs/coe/indicator_clr.asp
- National Research Council. (1999). *How people learn: Brain, mind, experience, and school: expanded edition*. National Research Council.
<https://doi.org/10.17226/9853>
- Noonan, J. (2014). In here, out there: Professional learning and the process of school improvement. *Harvard Educational Review, 84*, 145–161.
<https://doi.org/10.17763/haer.84.2.3qh5661426wn4356>
- Nystrand, M., Wu, L. L., Gamoran, A., Zeiser, S., & Long, D. A. (2003). Questions in time: Investigating the structure and dynamics of unfolding classroom discourse. *Discourse Processes, 35*(2), 135–198.
https://doi.org/10.1207/S15326950DP3502_3
- OECD. (2020). *Global teaching insights: A video study of teaching*. OECD Publishing. <https://doi.org/10.1787/20d6f36b-en>
- Page, S. (2020, May 26). Back to school? 1 in 5 teachers are unlikely to return to reopened classrooms this fall, poll says. *USA TODAY*.
<https://www.usatoday.com/story/news/education/2020/05/26/coronavirus-schools-teachers-poll-ipsos-parents-fall-online/5254729002/>

- Preston, C. (2021, September 19). Climate change is sabotaging education for America's students. *The Hechinger Report*. <http://hechingerreport.org/climate-change-is-sabotaging-education-for-americas-students-and-its-only-going-to-get-worse/>
- Reich, J., Buttimer, C. J., Fang, A., Hillaire, G., Hirsch, K., Larke, L. R., Littenberg-Tobias, J., Moussapour, R. M., Napier, A., Thompson, M., & Slama, R. (2020). *Remote learning guidance from state education agencies during the COVID-19 pandemic: A first look*. <https://doi.org/10.35542/osf.io/437e2>
- Rodriguez, V., & Fitzpatrick, M. (2014). *The teaching brain*. The New Press.
- Rosa, J., & Flores, N. (2017). Unsettling race and language: Toward a raciolinguistic perspective. *Language in Society*, 46(5), 621–647. <https://doi.org/10.1017/S0047404517000562>
- Samuels, C. A. (2020, September 17). Do parents trust schools? Where the fault lines are during COVID-19. *Education Week*. <https://www.edweek.org/leadership/do-parents-trust-schools-where-the-fault-lines-are-during-covid-19/2020/09>
- Thompson, C. (2020, December 6). Schools confront “off the rails” numbers of failing grades. *AP NEWS*. <https://apnews.com/article/distance-learning-coronavirus-pandemic-oregon-7fde612c3dbfd2e21fab9673ca49ad89>
- TNTP. (2018). *The opportunity myth: What students can show us about how school is letting them down—And how to fix it*. https://tntp.org/assets/documents/TNTP_The-Opportunity-Myth_Web.pdf
- Toto, J. (1994). *How to Homeschool (Yes, You!)* (1st ed.). Vital Issues Pr.
- Valenzuela, A. (2016). *Growing critically conscious teachers: A social justice curriculum for educators of Latino/a youth*. Teachers College Press.

Appendix A: Interview Protocol

I. Introduction

- Is this time still ok for you? How long are you available to talk?
- This interview is part of a much larger project that's involving educators all over the country. We're trying to understand educators' experience during the pandemic, so that we can gather lessons that might help remote learning happen better in the future.
- In this interview, there are no right or wrong answers. You're the expert, and we just want to understand how you see things and what you think about them.
- We will do everything we can to keep what you say confidential and will take your name and other identifying information off your responses.
- If you don't feel comfortable answering a question, just let me know and we'll skip it.

II. Background (if survey completed=confirm; if self-administering interview=answer)

- Which state and city do you work in?
- What is your role? (e.g., if a teacher, what grade-level and subject)
- What kind of school do you teach at? (e.g., public/private, K-6/K-8/etc.)
- How long have you worked there?
- How long have you worked in education? In what capacity?

III. Your experience of remote teaching and learning

III.1 Short form

1. What's supposed to be happening in your school with remote learning?
2. What are you actually doing? What does your practice look like now?
3. What's working?
4. What's not working or not yet working?
5. How are students responding? Are different students responding in different ways?
6. What have you learned from remote teaching that could be useful in the future?

III.2 Long form

1. What's supposed to be happening in your school with remote learning?
 - a. During this time when you and your students are not in school together, what kind of instruction are they receiving?
 - b. Elements of instruction
 - i. Delivering instruction
 - ii. Interacting with students/families outside of instructions (e.g., "office hours"; parent check-ins)

- iii. Communicating with/responding to students (e.g., giving feedback, grading)
 - iv. Interacting with colleagues within your school (e.g., faculty meetings)
 - v. Both internal & external support you've found helpful
 - vi. Addressing your students' needs who have disabilities and/or require special education (e.g., speech therapy, supplemental instruction, etc.)? What unique challenges, if any, have arisen?
2. What are you actually doing? What does your practice look like now?
- a. What do you think is the biggest difference *for your students* between in-person and remote learning? What do you think is the hardest part for them? What makes that aspect so hard?
 - b. What do you think is the biggest difference *for your students* between in-person and remote learning? What do you think is the hardest part for them? What makes that aspect so hard?
 - c. Elements of instruction
 - i. Delivering instruction
 - ii. Interacting with students/families outside of instructions (e.g., "office hours"; parent check-ins)
 - iii. Communicating with/responding to students (e.g., giving feedback, grading)
 - iv. Interacting with colleagues within your school (e.g., faculty meetings)
 - v. Both internal & external support you've found helpful
 - vi. Addressing your students' needs who have disabilities and/or require special education (e.g., speech therapy, supplemental instruction, etc.)? What unique challenges, if any, have arisen?
3. What's working?
- a. Think of a moment when you saw remote teaching work very well. Please describe what happened.
 - b. If you could show me a video of that moment, what would I see happening? What would I hear?
 - c. What were the characteristics of that moment that made it good?
 - d. What factors helped that moment go well?
4. What's not working or not yet working?
- a. Think of a moment when remote teaching did not work well. Please describe what happened.

- b. If I had a magic wand and could give you whatever would really help out your remote instruction—what would it be?
 - i. Why—what would make that thing so helpful? What job/s would it do for you?
5. How are students responding? Are different students responding in different ways?
 - a. From what you can tell: How are your students responding to remote instruction? Are different students responding in different ways?
6. What have you learned from remote teaching that could be useful in the future?
 - a. If your school continues with some remote learning this fall, what would you want to continue and what would you want to be different?
 - b. If you could go back in time and give some advice to yourself—at the moment when you first started teaching remotely—what would it be?
 - c. If your school needs to operate remotely in the fall, what specific thing(s) would you want to have happen differently?

IV. Wrap up

- What have we not talked about yet, that's really important to you?
- Thanks! (e.g., “Thank you for being so open about your experiences. It sounds like you've done a great job in a difficult time.”)
- Offer to share the results of your findings and any succinct, relevant resources your organization has available for them. (e.g., “We've compiled a list of resources for educators who are dealing with stressful events. Would you like for us to send you that list?”)

V. Post-interview

- Interviewer should write up their initial reflections on the interview immediately after it concludes. Save this on the shared project Google Drive so it can be linked to the transcript (once the audio is transcribed).