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### Author Note

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## **Abstract**

The immediate impacts of COVID-19 on K12 schooling are well known. Over nearly 18 months, students' academic performance and mental health deteriorated dramatically. This study aims to identify if and how the pandemic led to longer-term changes in core aspects of schooling. Drawing on semi-structured interviews with 31 teachers and administrators across 12 districts in two states, we find that schools today look quite different in several areas including the availability and use of instructional technology, instructional practice, parent-teacher communication, and the balance between academics and social-emotional well-being. We interpret these findings through the lens of institutional theory, and discuss implications of the changes for practitioners and policymakers.

*Keywords:* computers and learning, instructional practices, instructional technologies, organizational theory, COVID-19, parents and families, student mental health, descriptive analysis, qualitative research

### **Did COVID-19 Shift the “Grammar of Schooling”?**

The COVID-19 pandemic was a generational event. The virus killed over 1.1 million people in the U.S. alone, and resulted in the closures of businesses, schools, and even places of worship. Almost overnight COVID-19 transformed millions of homes into makeshift classrooms and millions of parents and guardians into teachers.

The immediate impacts of COVID-19 on K12 schooling are well known. Virtually all schools in the U.S. stopped in-person instruction in March 2020. Few children returned to school buildings that year, and by most accounts there was very little instruction provided anywhere in spring 2020 (Goodrich et al., 2022; Hamilton et al., 2020). Estimates suggest that 27% of school districts serving 44% of students started the 2020-21 school year virtually, with an additional 23% of students in something less than full time in-person instruction (Baum & Jacob, 2024). Fearful of health risks and frustrated with learning options, many families chose to enroll in private schools, homeschool their children, or simply not send them to school.

This disruption took its toll on students’ academic performance and mental health. Student reading scores on the National Assessment of Educational Progress (NAEP) experienced their largest decline since 1990, while student math scores declined for the first time ever (The Nation’s Report Card, 2023). Simultaneously, reported rates of depression and anxiety among teens increased sharply, with nearly half of high school students reporting persistent sadness or hopelessness in 2021 (CDC Media Relations, 2022).

However, by fall 2022, K12 schooling was “back to normal” in most respects. In-person instruction was universal and mask mandates were rare. Athletic events and extracurricular activities had resumed, and parents and volunteers were allowed in school buildings once again.

At the beginning of the pandemic, those who study educational institutions and organizational change hypothesized that COVID-19 might catalyze structural changes in K12 schooling. Mehta and Datnow (2020) wondered if responses to COVID would create

an “opening to radically shift the grammar of schooling” (p. 496). They pointed out that teachers were already calling for a permanent shift away from “business as usual” and schools that had adopted more personalized learning models and competency-based grading systems were finding it easier to adapt to the shifting circumstances of COVID-19. Fullan (2020) emphasized that the pandemic made even more apparent a “status quo that is blatantly and desperately dysfunctional” (p. 661), setting the stage for a paradigm shift in schooling.

The goal of this research is to qualitatively examine these predictions and begin to map out how and to what extent the pandemic has catalyzed institutional change in K12 education. In doing so, we hope to shed light on the consequences of this critical moment in history, contribute to the theoretical literature on organizational change in education, and inform the work of practitioners and policymakers as they continue to struggle with the repercussions of the pandemic.

While there are some reasons to believe that the pandemic will lead to permanent changes in schooling, there are other reasons to be skeptical. On the one hand, most observers consider the remote learning in 2020 and 2021 a failure, with disastrous consequences for the academic and psychological well-being of children. There is a powerful desire on the part of children, parents and teachers to return to “normal” school.

Yet, some early evidence suggests public schooling has not fully reverted to the pre-pandemic status quo. In 2021-22, when the vast majority of schools offered fully in-person instruction, national virtual school enrollments were 74 percent higher than prior to the pandemic, totaling nearly 600,000 students (Molnar, 2023). Reported teacher burnout has increased and morale has decreased even as health risks have receded, suggesting the pandemic could have permanently changed school climates and teacher labor markets (Westphal et al., 2022).

We interviewed teachers, school leaders, and district administrators in a variety of district contexts across two states in distinct regions of the country. We asked them about

their experiences leading schools and classrooms before, during and after the pandemic. For each district, we developed a picture of how practitioners at multiple levels of the education system perceived the changes in their schools both during and coming out of the pandemic. In doing so, we were able to begin answering the questions posed by Mehta, Datnow, and Fullan about if and how the pandemic has acted as a catalyst for organizational change in K12 schools.

We find notable changes to how schools approach technology use, instruction, parent-teacher communication, student well-being, and school staffing. Middle and high schools continue to assign students' their own laptops and rely on Learning Management Systems to structure learning. Teachers have reduced time spent on whole group instruction, relying more on software to differentiate instruction. Videoconferencing has supplanted in-person conferences as the primary mode of interaction between parents and teachers in many places.

Our findings contribute to the rich literature on organizational change in education. Consistent with theories developed by institutional scholars, we find that four factors strongly predict whether or not core schooling practices changed: (i) whether and how *practitioners* view an existing situation as “problematic”; (ii) the existence of an alternative that provides practitioners with sufficient support to be feasible; (iii) how the new approach conforms with existing social norms; and (iv) whether the change satisfies demands arising from political and economic interests. Our findings also shed light on a factor not sufficiently appreciated in earlier work - practitioner capacity. Respondents described how COVID-19 forced teachers to become competent with a wide range of digital technologies. They emphasized that this newfound technical competence – and the comfort it generated – facilitated many of the changes we highlight in the paper.

The changes we identify have the potential to improve student learning and increase educational equity, but also carry risks. For example, the growing use of digital tools that allow teachers to differentiate instruction may close achievement gaps exacerbated by the

pandemic. Similarly, the ubiquity of video conferencing has the potential to allow working parents to better engage with school staff. At the same time, some new research suggests that a reliance on digital platforms might impede learning relative to the old fashioned “paper and pencil” approach (Froud et al., 2023). Our research highlights several areas that practitioners and policymakers should carefully monitor in coming years to ensure that pandemic inspired changes are positively impacting learning.

The remainder of our paper proceeds as follows. We begin with an overview of the literature on the history and mechanisms of organizational change in education. We then explain how we collected and analyzed our data. The body of the paper presents our key findings, tying them back to leading understandings about organizational change in education. We conclude with a discussion of theoretical and policy implications.

### **Conceptual Framework**

As we think about the ways in which the pandemic has changed the structure of schooling, we draw on literature that emphasizes schools as institutions operating in a social, political and historical environment. We first outline ideas from new institutionalism that aim to explain institutional formation. We then draw on theories about organizational change to explore the mechanisms and conditions that lead to systemic change in educational systems. Synthesizing these literatures, we develop a set of conditions that may help explain the persistence (or lack thereof) of COVID-generated changes in K12 schooling.

#### **New Institutionalism**

The goal of “new institutionalist” theory is to understand why institutions adopt the forms they do. Rather than assuming that institutional models are created through rational decision making, these theories argue that political pressures, cultural values, and societal norms shape the practices and policies of schools (Burch, 2007; Meyer & Rowan, 1978). Two central concepts in this work are structural isomorphism and loose coupling. Structural isomorphism refers to the tendency of organizations striving for legitimacy

within similar environments to adopt analogous structures, policies, and practices (Burch, 2007; DiMaggio & Powell, 1983). Loose coupling refers to the tenuous relationship between formal structures and actual practices within an institution. Examining educational systems through this lens, analysts have found that formal structures and policies are often disconnected from what actually happens in the classroom (Burch, 2007; Meyer & Rowan, 1978; Yurkofsky, 2020).

More recent work expands on these ideas. Discussing examples of how early predictions fell short in describing some new institutional models in education, Rowan, Meyer, and colleagues acknowledge the limitations of loose coupling and structural isomorphism. They describe examples of tighter coupling and structural divergence and suggest that forces beyond social norms and political pressures can influence institutional design (Burch, 2007; Rowan, 2006). For example, modern accountability policies have resulted in tighter coupling between policy and practice in schools, market-based conceptions of school choice (including charters) have moved some schools and school systems away from structural isomorphism, and private sector competition among external education vendors has shaped instructional content.

### **The Challenge of Changing Educational Institutions**

Scholars have long recognized the challenge of generating change in schools. In the mid-1990's, Tyack, Tobin, and Cuban introduced the concept of the “grammar of schooling” to describe the largely unchanging core components of schools in the United States, including the organization of students into grade-levels by age, separation of classes by academic discipline, teaching as transmission of knowledge, and the sorting of students by ability (Tyack & Cuban, 1997; Tyack & Tobin, 1994). Tyack and Tobin (1994) suggest that the resilience of these institutional forms reflects a combination of political views on the purpose of school, functional notions about the needs of students, and cultural beliefs about what schools look like.

Because the grammar of schooling is so strong, reforms that seek to change



educational structures are usually “piecemeal, small-scale, and short-lived” (Fullan, 2020, p. 654). For example, Castillo (2020) describes how a progressive charter school faced challenges to its instructional model from both market forces and accountability pressures, ultimately reverting to a more traditional approach. Similarly, Marsh et al. (2020) describe the experience of a portfolio school-of-choice model in California that was designed as a vehicle to offer diverse options to families. The authors document that the schools evolved to be structurally quite similar to each other as a result of shared institutional logics around professionalism, community, accountability, market competition, and bureaucracy. In other cases, reforms result in surface level changes that fail to change classroom practices. Data driven instruction, for example, has largely taken on an air of “technical ceremony” in schools, signaling compliance without materially improving teaching and learning (Yurkofsky, 2020).

While substantial system-level change is rare, scholars have identified meaningful changes within the confines of individual schools and classrooms or on the periphery of educational systems (Cohen & Mehta, 2017; Cuban, 2020; Mehta & Datnow, 2020). Cuban (2020) explains that “hybrid” schools and classrooms combine traditional approaches with progressive changes to the grammar of schooling. For example, schools may combine project-based learning or flexible scheduling with high-stakes testing and traditional content areas, teachers may integrate personalized learning with whole-group lectures. In the same vein, Cohen and Mehta (2017) document “niche reforms” like international Baccalaureate or Montessori that have managed to meaningfully alter the grammar of schooling but exist only on the periphery of education systems, in “niche” spaces like individual schools or private education. Moreover, some system-level changes have taken hold even if they have not yet meaningfully altered the grammar of schooling (Peurach & Russell, 2024).

### **Conditions for Organizational Change**

The existing literature describes two potential catalysts of institutional change in schooling. On the one hand, change can be driven by “exogenous shocks” - events outside

of schools that trigger systemic reorientation. Theorists writing about “punctuated equilibrium” emphasize that policies undergo periods of relative stability, or convergence, until critical events trigger significant, discontinuous change (Tushman & Romanelli, 1985). These exogenous shocks act as catalysts for policy ideas and models that may have had little momentum beforehand. On the other hand, change can be motivated by tension between conflicting institutional logics internal to the system. The concept of institutional logics draws on ideas from sociologists and refers to the socially constructed patterns, symbols, and beliefs that shape organizational practices, such as democracy, accountability, and competition (Marsh et al., 2020). While multiple logics can exist and operate within an institution, sufficient tension between conflicting logics can create institutional instability.

Fullan (2020) emphasizes that the catalyst (whether it be an external event or an internal contradiction) must be substantial. Minor shocks or tensions will not result in large-scale change. Drawing on the seminal work of Thomas Kuhn, *The Structure of Scientific Revolutions* (Kuhn, 1962), Fullan argues that altering the status quo requires two conditions: (i) the existing situation must be facing “cataclysmic difficulties”; and (ii) there must be a valid alternative model available.

Writing from a different academic tradition, Kingdon (1984) proposes a model of multiple “policy streams” that emphasizes similar dynamics to those described by new institutionalists. The policy streams model suggests that opportunities for change can be triggered by external events, crises, or shocks or internal conflict that leads to instability. Policy windows open when the problem, policy, and political streams converge around a single issue. This happens when a well-defined problem garners attention, a policy solution has already been crafted, and politicians are motivated to act (Kingdon, 1984).

In an influential article, Cohen and Mehta (2017) analyze examples of significant education reforms throughout United States history to identify a set of conditions that produce reforms that last. These conditions — focusing on the nature of the problem, the validity of the solution, and the surrounding cultural and political context — reflect

insights on organizational change from a diverse range of scholars including Fullan (2020), Kingdon (1984), Kuhn (1962), Meyer and Rowan (1978), and Tyack and Tobin (1994). We draw on this framework to guide our analysis and interpret our empirical findings.

To be clear, the post-COVID changes we document differ from past education reforms in that they were not intentionally designed or centrally implemented. Rather the changes to schooling we observe reflect natural adaptations to changing social, political and educational circumstances. Nonetheless, we believe that the conceptual ideas summarized below constitute a powerful lens through which to understand the changes we observe taking place in schools today.

First, a reform is more likely to succeed to the extent that it addresses what *practitioners* believe (or can be persuaded to believe) is an *important* problem. Note the emphases: (i) the problem is perceived to be substantial, echoing the view of writers such as Kuhn (1962), Tushman and Romanelli (1985), and Fullan (2020); and (ii) the view of practitioners, and not simply policymakers or others outside schools, is critical.

Second, a reform is more likely to last if it offers a feasible solution to the problem. Specifically, the reform should offer practitioners the tools, materials, guidance or other support necessary for effective implementation (Cohen & Mehta, 2017). This echoes conjectures from Fullan (2020), Kingdon (1984), and Kuhn (1962) that a viable alternative must exist for change to occur. This could involve providing new resources or helping educators take advantage of existing resources more effectively.

Third, a reform is more likely to stick to the extent that it is consistent with existing social norms and compatible with the values of educators, parents, and students. Cohen and Mehta (2017) emphasize that this is essential given the locally controlled and democratically-governed system of education in the United States. Such ideas are consistent with the new institutionalist perspective on the impact of social norms and values in shaping educational institutions.

Fourth, a reform is more likely to succeed to the extent it satisfies demands or

motivations that arise from the political, economic or social circumstances of schooling. This might manifest as political, market, or popular pressure on or within educational organizations to accomplish some educational purpose (Cohen & Mehta, 2017).

COVID-19 was a dramatic shock to the K12 education system in the United States, destabilizing the institutional equilibrium in schools across the country. The pandemic not only required an immediate shift in the structure of schooling, but also surfaced tensions that had been simmering within schools for years, from issues of equity and social justice to student mental health and teacher burnout. Mehta and Datnow (2020) suggest that this created an opening to “radically shift the grammar of schooling.” Guided by the theoretical literature described above, we analyze a newly collected set of rich qualitative data to examine whether educators, policymakers or other stakeholders took advantage of this “opening” to make lasting changes in K12 schools.

### **Methods**

We interviewed 31 teachers, school leaders, and district administrators in 12 districts across two states. The interviews were semi-structured, prompting respondents to discuss different domains of schooling and asking respondents to speculate on the reasons for the changes they described. As with other small-scale qualitative research, this study cannot provide a fully representative view of how schooling changed across the U.S. It also cannot establish a clear causal link between the pandemic and schooling changes. However, it can identify a variety of ways that COVID-19 pandemic may have changed the structure of schooling and begin to build an understanding of *why* certain changes appear to be sticking.

### **Participants**

To obtain a diversity of viewpoints, we reached out to multiple districts in two states – one in the Northeast and one in the Midwest. The districts that we reached out to varied in terms of size, student poverty rate, race and ethnicity, political partisanship and learning mode in 2020-21 (see Table 2). We recruited participants using a combination of

personal connections, “cold” calling, and participant referrals (i.e., snowball sampling). For each district, we tried to interview one or two administrators at the school and district levels as well as multiple teachers across grade levels. Table 1 describes the participants included in the study.

### **Data Collection**

We conducted 26 semi-structured interviews with 31 participants over several months during the 2022-2023 school year. Interviews were conducted over Zoom and lasted roughly 30-45 minutes. We used Zoom’s internal transcription feature to generate interview transcripts which we then edited for accuracy by referring back to the video recording.

We came to this study with some preliminary ideas about the types of changes occurring in schools during the COVID-19 pandemic, and thus designed the interview protocol around five primary domains: availability and use of technology, instruction, parent-teacher communication, student social-emotional well-being, and staffing. The semi-structured approach meant the protocol functioned as a framework of themes to explore, allowing us to collect comparable data across participants while leaving the conversation open-ended enough for participants to talk about areas of impact and perspectives that we may not have previously considered (Merriam & Tisdell, 2015).

### **Data Analysis**

We used both deductive and inductive methods over multiple rounds of coding to identify common patterns and variation across the respondents, assisted by the software Dedoose. Our first round of coding was largely structural (Saldana, 2021), breaking down the interview texts into manageable sections that corresponded to both the domains listed above (technology, instruction, parent-teacher communication, student social-emotional well-being, and staffing) and the timing of events (pre-pandemic, during the pandemic, and currently). Expecting, however, that participants would shed light on changes and experiences beyond our original conception, we also identified passages that fell outside the scope of these initial domains.

After structurally coding each transcript using a set of pre-determined domains, we conducted a second round of coding using an inductive, open coding process to break down the passages identified in our first round into smaller excerpts (Jones et al., 2022). We allowed the data to guide us as we worked to identify the different types of experiences that participants described. We used a combination of in vivo and descriptive coding (Saldana, 2021), noting specific words and phrases that recurred in the text like “hands on”, “individualized”, and “how to do school” as well as describing and documenting experiences within each domain like “continued use of digital tools”, “technology for differentiation,” “gaps in social emotional development,” and “benefits of virtual parent-teacher conferences.”

Often, we paired descriptive coding with value coding to better understand participants’ *perceptions* of these changes. Within technology, for example, we identified ways in which devices were used before, during and after the pandemic and what benefits and challenges participants associated with devices. We also used descriptive coding to identify practices and resources that we wanted to be able to quantify in our analysis (e.g., specific software or apps). This process also helped us to identify changes outside of our initial coding scheme (e.g., teachers’ experiences, parental involvement, school scheduling).

In our third round, we refined our existing domains and incorporated new categories. We used pattern coding to identify new groups based on salient patterns among descriptive codes (Saldana, 2021). This process led to the development of categories for teacher experiences, parent experiences, and school infrastructure. We used axial coding to organize subcategories within our primary categories (Jones et al., 2022; Saldana, 2021)

## Findings

The themes that emerged from our analysis can be grouped into five broad categories: (i) the adoption of personal devices and learning management systems, (ii) shifts in instructional practices in response to emerging student needs, (iii) negative impacts on students’ social-emotional well being, (iv) new approaches to parent-teacher

communication, and (v) staffing related norms and resources. In each category, there were significant shifts in fundamental school practices and routines. The degree to which each of these changes persisted was often a reflection of the conditions described above: the extent to which the change addressed a valid problem, included a feasible solution, conformed with social norms and values, and aligned with political and economic motivations around schooling.

For each of these five categories, we begin with an analysis of the empirical evidence and conclude with a sub-section titled "Conditions for Change" in which we put the empirical evidence in dialogue with our conceptual framework.

### **Adoption of New Technologies**

Respondents uniformly told us that COVID-19 “sped up” the adoption of various technologies. They specifically described how the pandemic led their districts to provide individual students their own “personal” devices (laptops or tablets) and required teachers to utilize common online learning management systems. While these practices were in place in some districts to some degree before the pandemic, the shift to online learning in March 2020 catalyzed the transition for many school districts.

#### ***Personal Devices***

Those who study education technology refer to the scenario in which each student has a personal device that they use both at home and at school as a “1-to-1” student to device ratio. A school or district that operates in this way is described as a 1:1 school or district.

Prior to the pandemic, four of the 12 districts did not have sufficient technology to provide each student their own device. Students either accessed computers in a lab or through a shared computer cart. The technology specialist at a large, low-income urban district remarked about the state of technology before the pandemic, “So we didn’t have devices [for each child]. . . . the devices kind of just lived in the classroom” (Participant C1). Five districts indicated that although they had sufficient technology prior to the

pandemic for each student to have their own device, they chose not to allow students to take computers home. Two low-income districts were already 1:1 - a small, isolated rural district and a medium-sized rural district that had just started offering online options for students. A third upper middle-income, suburban district indicated that students were required to have their own computer, but only assigned devices to students who did not provide their own. Overall, most districts did not assign personal devices to all students. Moreover, it is unclear how often students with personal devices were using them prior to the pandemic.

This changed almost overnight in spring 2020. In 2020 and 2021, the federal government provided school districts with nearly \$190 billion to support student learning during the pandemic (Boughton et al., 2021). More than 90 percent of districts reported using some federal funds to purchase technology to improve access to remote learning and augment in-person instruction (U.S. Department of Education Office of Inspector General, 2023). In the districts we studied, all students doing virtual learning had their own device. A teacher and instructional coach in a low-income district remarked, “We became a one-to-one district pretty quickly, and we’ve remained that way ever since” (Participant K2). An administrator in another low-income district remarked, “We were already heading in that direction [1:1 ratio], so you know, it was just a catalyst to do that work quicker” (Participant G1).<sup>1</sup>

Contrary to what one might imagine, the two rural districts in our sample were most prepared in terms of availability of devices. Low income, urban districts required more of an investment in new technology. In all cases where schools became 1:1 in response to the pandemic, the immediate need posed by school shutdowns, the quick influx of funding, and educational institutions’ familiarity with Chromebooks and iPads allowed for rapid adoption of personal devices for students.

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<sup>1</sup> To improve the readability of some respondent quotes, we occasionally omit the filler words “like” and “uh” with no further edit. In all other situations, we indicate the omission of words with ellipses, and often use square brackets to explain the relevant context of a reference in a quote.



Since the return to in-person instruction, most districts maintained the 1:1 ratio. A few districts and individual schools, however, no longer allow students to take devices home with them, particularly in the younger grades. Two districts decided that students at all levels would no longer take devices home. In one district, the high schools remained 1:1 while the elementary and middle schools restricted laptops to in-school use. Another district asked their elementary schools to return to the classroom-cart model. Three other districts reported individual middle or elementary schools that decided not to allow students to take devices home.

Respondents provided several reasons for rolling back the 1:1 approach, ranging from problems with devices getting lost or broken to students being distracted by the devices in the classroom. The technology supervisor in a large, urban district noted, “This past school year we collected them all [before summer break]. We *still* lost a ton of devices.” An assistant superintendent in a middle-income district explained, “[M]iddle schoolers were terrible at taking care of their devices. I mean the amount of broken devices that came through the middle school was unbelievable...” (Participant B2). Finally, the technology coordinator of a third district explained that because students frequently left their computers at home or forgot to charge them, schools had to purchase additional classroom sets to ensure access to devices for lessons (Participant F1). For these reasons, some districts concluded it is not financially feasible to allow students to take devices home.

### ***Learning Management Systems***

During the pandemic, many districts adopted new technologies and began relying more on software such as Google Classroom, Zoom and digital instructional tools, forcing teachers and students to quickly learn these systems. Although respondents noted many challenges during this initial adoption period, they also indicated that the pandemic sped up the learning process. A technology coordinator in a mid-size, low-income district described how teacher facility with technology increased, “As a tech team, we still get a number of tickets, but the staff’s capacity to use the devices and comfortability has

drastically improved, especially in the grammar schools” (Participant G1).

Learning Management Systems (LMS) were perhaps the most widespread and visible pieces of technology adopted during the pandemic. These systems – like Google Classroom and Schoology – serve as a one-stop “landing platform” for all types of educational activities. Teachers use the LMS to post learning materials, classroom activities, and homework assignments. Students use the LMS to access materials and submit assignments. Teachers, students and parents can communicate with each other via the LMS. Participants in six districts reported using a LMS prior to the pandemic, but indicated that it was not mandated, widespread, or fully integrated into students’ daily learning. In contrast, all respondents reported that teachers were required to adopt and actively use a common LMS in the midst of the pandemic.

When asked which pandemic era innovations they continue to use, virtually all teachers mentioned their LMS. An assistant superintendent of a middle-income district remarked, “Google classroom has become a mainstay for many teachers, especially middle school, high school” (Participant B2). Teachers continue to use a LMS to post assignments and other class materials, emphasizing that parents appreciate this as well:

Whereas Pre Covid . . . you’re hoping and praying your kids bring home information ... [now] I can go on Google classroom and be like, ‘Oh, it says you worked on Mesopotamia today. What was that lesson about?’ (Participant G4)

The use of a LMS also allows students to more easily access material if they are absent and greatly reduced the need for students to carry heavy notebooks back and forth. A principal emphasized how the continued use of a LMS has made life easier for her high school age children, “I love it as a parent because my kids are not lugging stuff like huge backpacks... they can quickly look up their assignments, talk to their teachers ...” (Participant J2). Several other teachers mentioned that the use of a LMS has allowed even young students to become more self-sufficient.

Some respondents also described the benefits of a LMS in helping children access

material in class. Instead of directing students to a website to watch a video or repeating instructions, teachers instead put the link or recorded instructions on a classroom assignment page within the LMS.

Respondents in three districts (Districts C, D, and H) indicated that they are using the LMS less than during COVID-19, but still more than before the pandemic. As of 2022-23, teachers in these districts were using the LMS mostly to post assignments for children who were not in class. Teachers in primary grades were least likely to continue using a LMS; one elementary principal described how her district discontinued its subscription for Seesaw [a LMS that caters to primary grade teachers] for financial reasons (Participant J2).

### *Conditions for Change*

Perhaps the most visible legacy of the pandemic in K12 schooling is the ubiquity of student-assigned laptops and the widespread use of Learning Management Systems. These practices were underway before 2020, but the arrival of the pandemic accelerated their adoption. In explaining why this technology continues to be widely used in 2022-23, the educators with whom we spoke highlighted several of the conditions identified by organizational theorists: the existence of a problem, the availability of an effective and feasible solution, the compatibility with social norms, and relationship to political and economic demands.

First, the use of personal devices and LMS solved an increasingly important problem - namely, how students and teachers accessed and managed educational materials. Prior to the pandemic, many schools had started moving away from physical textbooks and workbooks. This trend has continued since the pandemic, with teachers incorporating more of digital tools and materials adopted during remote learning. Across grades and subjects, teachers are increasingly likely to use an array of instructional materials, including online readings and worksheets, interactive digital lessons, videos and simulations, and teacher-created materials (Arundel, n.d.). While this allows teachers to facilitate a variety

of different learning activities, it has also created the need for tools to effectively manage and organize these materials.

Second, personal devices and LMSs provided a familiar and feasible solution, creating a single location where students could organize their work, access the instructional content, and track any missed assignments. The fact that personal devices and LMSs were already familiar, though not widespread, educational tools facilitated their quick adoption. Before the pandemic, many schools in our sample had shared classroom sets of tablets that teachers could use for specific lessons. Some of the teachers we spoke to were already playing with integrating tools from platforms like google-classroom into their instruction. This familiarity eased their adoption when districts became 1:1 and started mandating the use of LMSs.

Participants’ explanations about why the LMS has become a mainstay in most schools also pointed to an additional factor not named in our conceptual framework: practitioner capacity. The technology coordinator that we spoke to emphasized the rapid learning that was forced on teachers because of the circumstances of the pandemic. Teachers that had not started using LMS tools or did not frequently integrate devices into their lessons quickly learned how to do so. In fact, one administrator mentioned that educators who felt they would not be able to keep up with the steep learning curve chose to retire. This increased capacity with these instructional tools likely contributed to their continued use.

Third, the use of personal devices and LMSs reflect a growing societal expectation that students be able to access and use technology in their learning, both at home and at school. Educators that we spoke to noted that many parents appreciated the increased access to their child’s instructional materials, further increasing support for these tools. Finally, LMS continue to receive political and financial support from district leaders and policy makers who now view this technology as a critical component of their schools’ instructional models, especially in secondary schools.

Situations in which the role of personal devices and LMSs have diminished post-pandemic are also informative about the conditions required for lasting change. According to respondents, some schools were less likely to continue using personal devices and LMS's for in-person learning because they no longer solved a pressing problem, provided an effective solution, or fulfilled stakeholders' expectations. Because elementary classes assign less homework and tend to facilitate more parent-teacher interaction the challenge of managing and monitoring instructional materials was lower than for middle or high school students. Moreover, while most parents and educators believe that older children should be able to navigate digital learning systems, fewer have the same expectations for young children. In middle and high schools that moved away from personal devices, administrators indicated that 1:1 devices had been problematic, particularly among middle school students, because devices were damaged, lost or simply not brought to school regularly. While the management of educational materials was still a challenge, the solution provided by personal devices and LMSs was no longer effective.

### **Shifts in Instructional Practices**

Teachers and administrators spoke at length about classroom instruction in a post-COVID world. In many ways, instructional practices returned to pre-pandemic norms: students were back in-person; class involved a combination of lectures, independent practice, and group activities; and teachers assigned homework and gave tests. When we asked one middle school teacher about how her classroom operates now, she responded, “I think I’m just back to the way I used to do it” (Participant I3). However, within these practices we see notable shifts in how and how often they are implemented. Everyone with whom we spoke discussed the toll of the pandemic on student learning. They explained that many children are lacking key skills and the gap between more and less advantaged students has increased dramatically. This new reality forced teachers to place a greater focus on intervention and differentiation, often implemented via small group and individualized instruction. Interestingly, many teachers turned to technology that they

adopted during remote schooling to address these problems that pandemic disruptions helped produce. Teachers’ new familiarity with various digital tools along with the increased availability of instructional technology enabled these changes. Additionally, their experiences during the pandemic led some teachers to make even broader changes in their instruction.

### ***Remediation***

Respondents described a variety of ways in which the COVID-19 pandemic influenced classroom instruction. The most common theme is the need for teachers to address deficits caused by pandemic disruptions and the challenges of remote learning. Describing how she now spends more time reteaching material from earlier grades, a fifth-grade teacher from a working-class district explained, “[I]’ll say, did you learn this - a topic I know was covered in fourth grade. Most of them will not remember it at all. They’re just not retaining things the way they used to” (Participant G3).

Teachers and school and district leaders from five districts - in poor and affluent communities alike - talked about specific strategies for tailoring instruction to meet individual students’ learning needs through small group instruction, targeted interventions, differentiation, and personalized instruction (Districts E, G, I K, and L). An instructional coach in an urban, low-income district in the Midwest explained:

Well, I think there is much greater emphasis on small group instruction, individualized instruction. ... We have so many students who, you know, they were already either behind or falling behind prior. And now it’s profound. So we’ve just realized that any extra supports or those learning opportunities, whether it’s one on one or small groups, have to become an integral part of our instructional practices in the classroom every single day. (Participant K2)

School leaders have addressed the need for remediation in a variety of ways. Respondents from four districts (Districts G, I, K, and L) mentioned that their schools have started “What I need” (WIN) or "Power" blocks to accommodate the diverse learning needs. During these blocks, teachers provide individualized support to students while

others work on independent practice or extension activities.

Other districts are leaning into an approach known as Multi-Tier Systems of Support or MTSS. In this model, Tier 1 supports are provided to all students, such as adopting a new curriculum or instructional practice. More intensive supports (Tier 2) are provided to small groups of students. The most intensive supports (Tier 3) include things such as one-on-one tutoring that are provided to a small set of students, typically on an individualized basis. The notion is that students can move up or down the tiers depending on their need.

### ***Instructional Technology***

Another common theme was the increased reliance on instructional technology. Districts invested heavily in a wide variety of digital tools during the pandemic. In some cases, companies made their software available to teachers for free; in other cases, districts used emergency federal funding to purchase software licenses. While teachers in five districts indicated that they have since lost access to many of these tools, teachers in four districts reported that the district was more willing to pay for digital tools today than in the past. A school improvement coordinator in a low-income district remarked, “Before Covid we were spending about \$190-200,000 a year on subscriptions. We are now spending over \$300,000 on subscriptions” (Participant K1).

Teachers described a wide variety of tools that they began using during the pandemic and continue to use today. Some popular products allow teachers to create interactive presentations which can integrate instruction with formative assessment (e.g., Nearpod) or learning games that give students practice in various skills (e.g., Kahoot). Other software provides students targeted instruction and practice in core subject areas (e.g., Lexia for reading and Zearn for math). Teachers emphasized how these tools allow them to better differentiate instruction, something educational technology has long aspired to (Cuban, 2003). A third-grade teacher in a low-income district explained her use of Lexia software for reading instruction:

The kids are in so many different places, Lexia is very prescriptive and diagnostic, so it will give the kids specifically what level and what skills they need. ...[I] have a student who's working on Greek and Latin roots, and then I have another kid who's working on short vowel sounds. ... [It's] much easier for them to ... get it through Lexia than me trying to get, you know, 18 different reading lessons. (Participant G5)

While learning loss made the use of these digital technologies more valuable, it alone cannot explain the change. The pandemic not only increased the availability of digital tools but, more importantly, increased teachers' familiarity and comfort with the tools. A literacy coach in a mid-size, low-income district emphasized that teachers had access to much of the software prior to the pandemic, but did not use it regularly.

During the 2020 and 2021 school years, teachers learned how to integrate various software programs into their instruction. A district administrator in a high income district in the Northeast explained that because vendors offered free licenses during the pandemic, teachers were able to build familiarity with a wider array of tools: “we adopted and tried out probably more of those types of tools than we normally would have chose to... it's just not feasible to adopt all of those tools and pay for them” (Participant E1). Once licenses had to be paid for again, they were able to select the tools that worked best for their teachers.

Some teachers reported they are relying on the specific activities and lesson plans they created when teaching remotely during the 2020-21 school year. A middle grades teacher in a working-class district remarked, “why reinvent the wheel,” pointing out that she and other teachers in the district have a full year's worth of digital assignments prepared (Participant G4). Teachers in middle- and upper-income districts were most likely to mention this phenomenon, perhaps because they had the resources to develop high-quality digital material during the pandemic. For example, a building administrator in an affluent public school district noted that their literacy and math departments put most of the curriculum into slideshows during the pandemic, and classroom teachers continue to utilize these today (Participant E4).



### *Benefits of instructional technology*

In discussing their continued reliance on instructional technology, teachers described several benefits. In addition to noting that technology facilitates differentiated instruction, they explained that software like Flowcabulary and Prodigy make learning more engaging. One district administrator explained how secondary teachers are using an educational software program to monitor student progress:

Edpuzzle is another one that our secondary teachers have used quite a bit and there was only a handful of teachers using Edpuzzle before the pandemic ... You can insert questions into your own video and they can't move on in the video until they have answered the questions and then you can actually attach assessment marks to that... (Participant I1)

Teachers also discovered that digital tools can reduce the amount of time that they spend grading. An elementary teacher started having students submit assignments digitally because it allowed her to provide feedback more effectively. Even when her students complete an assignment by hand, she has them take a picture of it and upload it to her LMS:

I can sort them, and I can comment on them really fast. So it's made feedback better. ... [I have] essentially a portfolio of all their math, rather than like a hard copy that they could lose... We can give verbal feedback. I could just hit the mic and say, 'Hey, double check number 6, your fraction is in fifths, it needs to be in tenths'. (Participant I2)

Another elementary teacher recounted her delight at discovering she could use Google Forms to automatically grade quizzes, “That was a beauty finding! ... Google forms that will grade it for you ... and import the grade into Google classroom for you” (Participant G4).

Interestingly, teachers reported that post-pandemic they are increasingly likely to use lesson plans and instructional materials associated with online curricula. Prior to the pandemic, many online and digital curriculum products integrated tools that allowed teachers to provide general instruction on a topic, assess student knowledge, and then

provide practice or reteaching geared to specific student needs. Teachers described how, in earlier years, their use of these technologies was limited to discrete components like independent practice tools or formative assessments. They were less likely to pull entire lessons or utilize remediation tools tied to the assessment results for individual students. Following the pandemic, teachers are more likely to use these features of the technology. Referring to a program called iReady that her district used prior to the pandemic, a middle school teacher described her colleagues now using the specific lesson plans provided to target specific skills that students need reinforced (Participant K2).

### ***Limitations of instructional technology***

While teachers cited many benefits of the new instructional technology, they also pointed out the limitations of digital tools. Math teachers in particular emphasized the challenge of transitioning to a fully digital environment. A high school math teacher in an affluent district reflected:

Google kind of sucks for math, like its equation editor is super basic and it doesn't have screenwriting capabilities ... So a lot of that stuff didn't stick with the math department because we're just like it's more work for us to try to do the virtual stuff. (Participant J1)

An elementary teacher in a middle-income district described a similar experience, “I think most of us still do the math workbooks on paper, just because there is not a great way to, like, draw a fraction circle on the Chromebook” (Participant I2).

Some educators worry that the focus on technology is hindering student progress in areas requiring fine motor skills such as handwriting (Districts B and J). A third grade teacher in a middle-income district summarized, “[Y]ou can't learn handwriting on the computer. ... those fine motor skills ... their handwriting sucks compared to how it used to be” (Participant B1). Another elementary teacher explained, “I feel like after the few years of having so much screen time, I find the kids almost have no paper and pencil stamina” (Participant G4).

Additionally, several respondents reported that their students were weary of

instructional technology. After months of watching videos, clicking through slideshows and doing practice problems on a computer, students expressed a desire to engage in more traditional learning activities. One elementary teacher recounted, “The first time I tried to do a Nearpod with my class [in person] last year, they revolted. . . They expressed that they did Nearpods for like every subject every day and they were done” (Participant D4).

Many teachers and schools are making efforts to balance the use of digital tools with hands-on, interactive activities that were not possible during the pandemic. A principal from a low-income, rural district noted, “We’re actually kind of going backwards and we’re trying to do more hands-on activities” (Participant H2). Multiple respondents indicated that certain instructional strategies are more effective and engaging when done in a hands-on, face-to-face format. One school leader from a large, urban district explained:

There were all these little things. . . Pear Deck, Jam Board, you name it. Every innovative app that they were trying to incorporate when they were online to get engagement. They still may post to Jam Board and say, tonight do this. But when you’re in the classroom it’s much more interactive. So instead of the virtual sticky notes, they may be using real sticky notes or stuff like that. (Participant C2)

### *Conditions for Change*

Our conversations with educators revealed several important ways in which instruction looks quite different than before the pandemic. Schools are devoting substantially more time to remediation and teachers are using technology to differentiate instruction to a degree rarely seen before COVID-19. These examples align closely with the conditions for change outlined in our conceptual framework: they addressed important problems, provided feasible solutions, and aligned with political motivations.

First, the shifts in instruction described above address new and exacerbated gaps in student learning as well as persistent instructional challenges that existed before the pandemic like student engagement and grading. The pandemic expanded academic gaps, leaving teachers to address a wide range of skill levels within a single classroom. The magnitude of the problem caused schools and districts in a variety of contexts to place a

renewed focus on small group instruction, remediation, and personalized learning as well as school-level investments in remedial blocks and MTSS. Additionally, many educators found that instructional technologies they had become acquainted with during the pandemic helped to address common pre-pandemic instructional challenges. Teachers now had access to an expanded tool kit of strategies and resources to make learning more engaging for diverse groups of students. And, for many teachers, automatic grading and online feedback mechanisms embedded in many of these tools were welcome surprises that simplified their work.

Second, access to the tools, resources, and strategies that have helped teachers to address these problems expanded alongside practitioners’ capacity to effectively implement these approaches. The increased use of personal devices in classrooms expanded students’ access to many of the educational tools described above and allowed them to become a regular part of classroom instruction. Many of the school-level models implemented to facilitate remediation, like remedial blocks and MTSS, existed prior to the pandemic, but the magnitude of the problem motivated schools to bring these peripheral solutions into mainstream educational contexts. Additionally, most districts were able to invest in instructional technology during the pandemic because of federal funding and private vendors’ decisions to make their technology available for free. When many companies stopped providing free licenses and funding expired, some districts were able to direct financial investments into instructional technology based on what had worked best for teachers and students during the pandemic. Access to a wide variety of instructional technology increased teachers’ comfort and proficiency with these tools, allowing teachers to more effectively integrate them into in-person classroom instruction.

Finally, the pressure to get students “caught up” motivated leaders to throw political and financial support behind instructional changes. School and district leaders, eager to close achievement gaps and demonstrate recovery post-pandemic, put political support behind systemic school-level changes and pushed their teachers to integrate more

strategies for differentiation into their instruction. In districts that could afford it, decision-makers also expanded financial support for digital tools that facilitated personalized learning and student engagement.

Where pandemic-era shifts in instructional practices did not last, we see fluctuating needs, solutions becoming less effective, conflicting values, and shifting policy priorities. Solving math problems with pencil and paper, for example, continues to be more effective than typing out solutions on a google form. While teachers continue to use technology that can create more engagement than traditional in person learning (e.g., Kahoot and Prodigy), they have moved away from digital tools that have a more engaging in-person alternative (e.g., Jamboard). Additionally, in some districts an over-reliance on digital tools runs counter to the needs and values of teachers and students. Some students are tired of interactive slide-decks and learning apps and some teachers fear the loss of important hands-on skill development. In some cases, teachers stopped using educational technology that had been adopted during the pandemic because, as free licenses and funding expired, shifting financial and policy priorities led district leaders away from expanded investments into ed tech.

### ***The Emergence of Niche Reforms***

The COVID-19 pandemic also created space for individual teachers, schools and districts to adopt what organizational scholars have described as “hybrid” (Cuban, 2020) or “niche” (Cohen & Mehta, 2017) reforms. We describe three examples here: one district that now provides students with unprecedented flexibility to combine virtual and in-person learning options; one teacher whose experience teaching virtually in 2020 led her to revamp her in-person curriculum to emphasize depth rather than breadth; and another teacher who was inspired by the pandemic to integrate regular “brain breaks” for her middle schoolers.

There was widespread agreement among educators in our study that the remote instruction during 2020 and 2021 was an educational failure. By the start of the 2022-23 school year, all of the districts in our study had reverted to in-person schooling. While

some students were able to take asynchronous virtual courses for specific reasons administrators in most districts did not encourage the practice.<sup>2</sup> Furthermore, societal trends toward a frustration with remote schooling likely contributed to a lack of stakeholder motivation to support virtual models. Where such approaches persisted, they did so as niche reforms meeting the unique needs of specific populations.

One district in our study, charted a different path. Rather than limiting virtual options and encouraging families to return to a traditional face-to-face format, this low-income, rural district expanded virtual options in a variety of innovative ways. They customized asynchronous virtual offerings to align with their curriculum and paired online classes with daily one-on-one virtual mentoring and weekly, online small group meetings with a district teacher. The district embraced a flexible system that allows students to pick and choose virtual courses to best meet their individual needs. A teacher explained that many students take advantage of the flexibility:

We have made our schedule just absolutely whatever fits the kid, you know. So there will be a kid that comes here in the morning for band first hour, they go home second, third, fourth, and then they come back fifth and sixth for math and social studies because they know they're not good at math and social studies, and they don't want to do that online. Our flexibility and our schedule will be the thing that, I say, is like the silver lining of COVID for us. It's just opened up so many doors for parents and for kids that are struggling...  
(Participant H2)

Emphasizing that roughly three-quarters of students in the district are eligible for subsidized meals, a high school principal described various reasons children utilize the virtual option. In some cases, family circumstances require students to be away from class during part of the day to, for example, work or take care of siblings. In other cases, transportation challenges make it difficult for students to attend classes during the regular school day. This is particularly true for the large set of students who live outside of the

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<sup>2</sup> Administrators explained that students are able to take virtual classes through third-party providers that offer asynchronous, video-based courses with very few opportunities for interaction with a human instructor. The general sentiment among respondents was that these options are low-quality and ineffective for most students – a view that is consistent with research on fully virtual schools (Woodworth et al., 2015).

district but attend in-district schools through the state’s open enrollment policy which does not guarantee transportation for students’ outside of their home district. Finally, some children prefer the virtual option to mitigate their anxiety.

This district’s flexible, hybrid instructional system is an example of a niche reform made possible by the financial investment in technology provided during COVID along with the comfort with virtual platforms that developed among teachers, students, and families following the pandemic. This niche reform has persisted because it continues to meet the unique needs of the district’s students and families, educators continue to see both a purpose for and benefits from the program, and the district is motivated to continue putting financial and political support behind this model.

An elementary teacher in another district described how her experience while teaching virtually during the pandemic led her to make substantial, lasting instructional changes. During the pandemic, her school used a hybrid schedule, meaning students were in the building two days per week. She found students had trouble learning new math concepts on their “at home” days, even with video lessons she created for them. As a result she changed her approach to teaching math:

We actually took two days for every math lesson which, I’ll be honest, completely freaked me out - like we’re not going to get through the curriculum. ... But, my math scores that year on NWEA, which is our winter standardized test, were one of the best years out of my ten. (Participant I2)

She concluded that not only was it fine to spend more time on each lesson, but that in some cases the extra time led to better understanding. Now she takes two days on many lessons and believes it has dramatically improved her instruction, “[W]e kind of proved to ourselves that we don’t have to push a lesson out every day... that’s been true for other subjects as well” (Participant I2).

A middle school teacher in a suburban district described a similarly unexpected change to her practice. During the pandemic, she instituted “mask breaks”, five-minute recesses during which she would allow students to go outside and take off their masks.

Realizing that these recesses were also a good “brain break,” she decided to continue them after COVID restrictions were lifted. “We have seventy-minute classes, so kind of a long time for you know, a twelve- or thirteen-year-old to sustain without a break” (Participant I3).

These simple changes push against the traditional “grammar of schooling” whereby teachers feel pressure to cover material in order to prepare students for standardized tests and to not waste a minute of valuable “instructional time.” These teachers were able to break away from these patterns because they found simple, feasible changes (likely with at least some level of support from school leadership) that actually helped them to address significant challenges.

### **The Rise of Socio-Emotional Learning (SEL) Programming**

Another theme to emerge from our conversations with teachers involves the increased mental health and social-emotional challenges among students and how schools have responded to the new need. Respondents in four districts explicitly mentioned increased rates of anxiety, depression, and other emotional struggles. An elementary teacher explained:

We have so many students who are going to guidance because they have you know, anxiety - lots of students with anxiety and social issues, you know, which we didn't see five years ago. I mean of course you saw some of it, but like what we're seeing now, it's just unbelievable. (Participant G3)

Respondents in nine districts described notable gaps in students' social-emotional development, remarking that, following the pandemic, they do not know how to “do school” and are less mature than expected for their grade level. They attributed this to being home/online for extended periods of time. Elementary teachers reported that children in 2022-23 were still having difficulty following basic rules and transitioning between activities. An early elementary teacher in an affluent district noted, “They do need a lot more hand holding... they were in kindergarten when we shut down. So I feel like they're still learning those skills like even sitting on the rug” (Participant E2). Middle



school teachers overwhelmingly emphasized behavior problems. Teachers working with even older students reported greater apathy and disengagement.

Respondents in six districts described increased levels of student absenteeism compared to before the pandemic, echoing a growing national concern around chronic absenteeism in schools (St. George, 2023). One principal explained how attendance problems compound other challenges students experience: “When you missed three days in a row, or you missed two days a week, it’s hard to be engaged. It’s hard to climb out of a hole that you’ve dug, and then you get frustrated, and then you want to miss more days” (Participant H2). The issue is complicated by the fact that students are encouraged to stay home when they’re feeling sick and, as one teacher explained, are more comfortable doing so because of the increased online access to class materials:

Now that everything is being posted in Google classroom and it’s kind of easier to get what you’re missing, I think they’re a little bit more willing to stay home if they’re really sick instead of trying to muster it through a day. (Participant J1)

Virtually all districts indicated that they have adopted new services to address students’ socio-emotional needs, from hiring additional staff to implementing new school-wide programming. School leaders across a variety of districts mentioned hiring new staff. The superintendent of a small, rural district hired a counselor to focus on student emotional needs for the first time in that district. An administrator in a mid-sized working-class district remarked, “In every building we have more counselors than we did pre-pandemic.” (Participant G1). An administrator in a middle-income district noted:

So we’re throwing all kinds of resources at that ... hiring more social workers and people who can address the mental health issues with kids and behavior issues with kids. ... All of our elementaries have a social worker now ... We just posted for a Dean of Students in the middle school and the high school ... more hall monitors, and what we call student advocates - they’re folks that are just in the building ... just connecting with kids. (Participant B2)

At the same time, four districts reported implementing new interventions aimed at

addressing student emotional and behavioral needs. Some respondents mentioned programs that have been available to schools for years, including Check and Connect. Other districts discussed programs aimed at improving student behavior and mental health like Positive Behavioral Interventions and Support (PBIS) and the University of Michigan’s TRAILS program.

Four districts described adopting online platforms that allow students to anonymously report their emotional state on a daily basis, including one program called Class Catalyst and another called CloseGap. These tools provide aggregated data to help school staff track broad patterns among students. If an individual student responds in a way that is particularly worrisome, the teacher is alerted so they can provide the student with extra support or refer them to a counselor.

Administrators reported that the pandemic led school staff to support social-emotional learning (SEL) programs more than they would have before. One administrator explained, “We’ve had very little resistance in asking classroom teachers to teach the SEL curriculum ... I think it’s because there is widespread recognition that our kids are coming in post-pandemic with, you know, a whole host of issues” (Participant G2). According to respondents, much of the teacher professional development around SEL that began during COVID-19 continues to this day. Several teachers and administrators described workshops on trauma-informed instruction and other activities geared toward better supporting students’ emotional needs.

Encouragingly, many respondents indicated that student mental health is improving to some extent. The superintendent of a relatively affluent and higher-achieving district remarked, “We’re still seeing ... behavioral issues. They’ve come down some” (Participant D2). Similarly, the building administrator in a large middle school within a high-poverty district reported that things were much better in the 2022-23 school year, “This year, I think, is starting to feel normal or whatever normal is” (Participant C2).

Still, multiple respondents indicated that student mental health is likely to continue

being a priority in schools for many years. A superintendent in a high-income district explained “the social, emotional piece. That will probably be something that’s going to be around for a few more years. It’s going to take us a while to work through that cycle and get kids to be more comfortable with being in school” (Participant D2). A middle school teacher noted, hopefully, that “there is a stronger focus on that human-centeredness, that social emotional support, and about how that needs to be a priority before you can get to deeper learning” (Participant H3).

### *Conditions for Change*

The rise in dedicated resources to address students’ social and emotional health stems from the interaction of several conditions described in our conceptual framework: the existence of an obvious and urgent problem, the availability of feasible solutions, a social consensus around addressing the problem, and a strong political motivation.

The urgency surrounding student mental health is well documented. Media reports have described substantial increases in student anxiety, depression and behavioral challenges since the COVID-19 pandemic. Respondents in this study confirmed these accounts and shed light on how these challenges manifest in schools. Elementary educators noted delays in social-emotional development, middle school educators emphasized behavioral struggles, and high school educators remarked on the increase in student apathy. Across grade levels and school types, rates of student absenteeism that increased during the pandemic have remained elevated. While these are not new problems, the educators with whom we spoke emphasized how social isolation during the pandemic exacerbated the problems and made them more visible to parents and teachers.

At the same time, there were many readily available solutions for schools seeking to improve student social-emotional well-being. In all of the districts we studied, educators described efforts to hire specialized staff and implement new programs and curricula. Respondents described many interventions that have been around for years – from hiring additional school social workers to implementing programs such as Check and Connect or

PBIS – as well as some newer approaches such as trauma-informed instruction. They also mentioned some interventions that were developed more recently, including the University of Michigan TRAILS program. While there is not rigorous evidence to support all of these interventions, school leaders seeking to address the rise of student mental health problems had a plethora of plausibly beneficial and logistically feasible options available to them.

Finally, the magnitude of the problem has shifted social norms and motivated policy-makers to act. Many of the teachers that we spoke to felt that the shift toward acknowledging and addressing student mental health and social emotional learning in schools was an important and necessary change. Some sounded certain that this new "human-centered" approach would persist. Additionally, policy makers and school leaders are actively funding and supporting a wide range of interventions. Administrators recognized that while need remains high, SEL and mental health programming will remain priorities. The question remains, however, to what degree these interventions will persist if the level of need does subside.

### **The Changing Nature of Parent-Teacher Interactions**

The COVID-19 pandemic forced districts to adopt new means of communication and dramatically expand others. Many respondents noted that students, teachers, and parents came to rely on email and text during 2020, and the widespread use of these platforms has continued even now that school is back in-person. Some districts reported that parent communications had become more centralized because of changes made during the pandemic. However, the most visible change was the rise of videoconferencing via platforms like Zoom, Google Meet and Microsoft Teams.

When schools were operating virtually in 2020 and/or 2021, teachers relied on videoconferencing to conduct lessons and communicate with parents. Even teachers in districts that offered in-person instruction in fall 2020 reported that much of the interaction with parents was conducted via videoconferencing that year. While nearly all students were attending school in-person by the end of 2021, teachers and administrators

reported that the new modes of communication persisted.

The benefits and popularity of virtual parent-teacher meetings was reported in a diverse set of districts. Educators in 8 of the 12 districts we studied said virtual parent-teacher conferences were extremely common because of convenience – they are easier to schedule and increase access for parents who work and might not typically make it to school for conferences (districts D, E, F, G, J, K, and L). Respondents in two of these districts (districts G and L) explicitly mentioned that most parents seem to prefer meeting online.

An elementary teacher in a middle-income district explained that virtual conferences are, “really convenient for parents, especially working parents. ... It’s a lot easier than having to come all the way into school. I don’t see that going away anytime soon just because of the convenience of it” (Participant D3). A building administrator in a low-income district contended that virtual conferences have substantially increased parent attendance, “Our attendance rates [at parent-teacher conferences] and interaction with parents went through the roof” (Participant K3).

Virtual meetings are also convenient for teachers. Describing why she prefers virtual parent-teacher conferences, an elementary teacher in an upper middle-income district explained, “it was so timely. People were waiting in the waiting room ... So it was just very time efficient, and I knew who was coming [because they signed up ahead of time]” (Participant I3).

School staff reported that videoconferences are also particularly valuable for meetings to discuss Individualized Education Plans (IEPs). Educators in four districts reported that parents are now offered an online option for IEP and 504 meetings. They explained that parents often prefer the online format and that most of these meetings are now conducted virtually (districts B, E, J, and K). IEP meetings typically include parents, teachers, social workers, and school psychologists, which makes them difficult to schedule. A building administrator from a low-income district could barely contain his enthusiasm

when asked to explain the benefits of virtual IEP meetings:

It's rare that we have a face-to-face meeting... everything is DocuSigned now. Parents love it because I can have a parent that's working - a single mom that's working full time - that can step out during her lunch break ... [and] still interact with everybody. (Participant K3)

On the other hand, three leaders from a large urban district, a remote rural district, and a suburban district (districts A, C, and I) reported pushing for, and in one case even mandating, in person meetings with parents. In one upper middle-income district, teachers reported being encouraged to only offer virtual options if parents specifically requested them. These leaders cited issues of inequitable internet access and a need for strong community building as motivators for returning to in-person parent-teacher conferences.

In discussing the widespread use of videoconferencing now, respondents emphasized the importance of the COVID-19 pandemic in catalyzing the change. The technology coordinator in a middle-income district guessed that it would “not have flown” before COVID because people were not used to doing things online.

Virtual meetings were not the only way the pandemic influenced parent-teacher communication. A number of teachers discussed how they started texting more with parents during the pandemic and continued to do so after returning to in-person schooling. Prior to the pandemic, teachers recognized the benefits of texting for quick check-ins with parents but were not comfortable using their personal phone numbers. During COVID, many schools purchased a technology called Remind that allows teachers to use their personal smartphones to text with parents while blocking their actual phone number. A middle school principal in a mid-size, working class district explained:

Our teachers are using the Remind apps to communicate with parents ... If you'd ask them, they would say, that's probably the biggest thing ... communication is constant back and forth ... 'I'm concerned about Johnny because he's been sleeping a lot [in class]. Is there anything going on at home?' And parents will reply back (Participant K3)

Several respondents described benefits of the new technology-enabled

communication channels. For example, teachers noted that Remind and many LMSs have translation capabilities that they use to communicate with parents whose native language is not English.

While praising the advantages of new communication options, teachers discussed challenges with parent-teacher communication – some new, and some from pre-COVID times. For example, teachers cited the lack of accurate contact information as a barrier to electronic communication with parents. Some lamented the less personalized nature of virtual communication. Driven by a strong belief in the benefits of face-to-face meetings between teachers and parents, one district simply did not offer virtual options. Referring to virtual conferences, the superintendent of this small, rural district remarked, “There’s a disconnect when we do that ... No, I want the parents back in our buildings, I want people back. We’re a community center.” (Participant A1)

Finally, several teachers, primarily at the elementary level, remarked that parent expectations around communication had increased following the pandemic. An elementary teacher in a working-class district explained:

Now that we have the email and Google classroom, I feel like certain parents expect you to be immediate with any response, forgetting that when I’m done with my work day, I shouldn’t have to check my work email. (Participant G4)

### *Conditions for Change*

During the pandemic, email, text and video conferences met the immediate needs of teachers and families trying to stay in touch when in-person meetings were no longer an option. The persistence of these new modes of communication reflects the conditions for change outlined in our conceptual framework: they address an important problem, provide a convenient solution, have become culturally accepted (and expected) norms of communication, and experience continued political support.

Although teachers and parents can again interact in person, virtual options provide a solution to a problem that existed long before COVID: the challenge of scheduling

meetings with busy parents. For working parents especially, getting to school for a meeting during the workday is incredibly difficult. Virtual options were a convenient solution. Parents and teachers had largely become accustomed to using virtual meeting platforms. Respondents across multiple districts emphasized that allowing parents to connect with their children’s educators virtually increased attendance at parent-teacher conferences and IEP meetings. Over the course of the pandemic, nearly everyone’s capacity with virtual conferencing improved. Today, video calls have gained broader social acceptance and, for many, are an expected option for interaction. As such, many school and district leaders have decided to continue to accommodate virtual meetings with parents.

In districts that moved away from virtual parent-teacher conferences, the conditions for change were not satisfied. In some areas, inequities in internet access made virtual options a less effective solution. In other areas, political support for virtual options subsided after the pandemic because the solution conflicted with school and district leaders’ values. The leader of an urban district brought up the issue of equity, noting that internet access differed across households. In this case, the solution was not accessible to many parents and thus was not as effective. This, combined with the fact that district leaders felt it was unfair to offer an option that was not equally available to all parents, caused video conferencing to lose political support. The school and district leaders in rural and suburban districts that moved away from virtual conferences attributed their decisions to a firm belief in the importance of bringing families into school buildings. In these cases, virtual conferences lost political support because they conflicted with deeply held values about what it means to create and sustain a community.

In contrast to the clear and dramatic changes in parent-teacher communication, we did not find any systematic change in the ways in which teachers and schools approached parent involvement once in-person instruction resumed. Most of the districts that we studied indicated no significant change in the degree or manner of parent involvement and none mentioned changing their approach to engaging parents in school activities.



Considering the conditions outlined in our conceptual framework, there are several possible explanations for this lack of change. Teachers and school leaders likely do not see any significant problems in how they approach parent involvement, alternative strategies for soliciting parent involvement are not well known, and current approaches to parent involvement do not meaningfully conflict with cultural norms and values or political motivations.

### **Staffing: Heightened Challenges but Few Solutions**

When interviews turned to teachers' professional lives post-COVID, we commonly heard words like “burnout” and “stress.” Many respondents commented on the large number of teachers leaving the profession. Some older teachers retired during the worst part of the pandemic because they were worried about getting COVID-19 or did not feel capable of mastering the technology necessary for virtual teaching. A principal in a more affluent district explained:

The end of the 19-20 school year, some of like the teacher stress levels were ridiculous, and I had ... two surprise retirements ... prior to this they probably would have hung on for a few more years. But they looked at, you know, the risk assessment of like gosh, you know, I'm older, I don't want to get COVID ... And then this learning curve for me is so steep that I'm not willing to stay in this (Participant J2).

Other teachers – old and young – left during or after the 2021 and 2022 school years because of burnout. Teachers attributed the departures to the stress of serving students with greater emotional and academic needs along with the continuing risk of COVID-19. An administrator in a working-class district recognized, “So we've just been putting a ton of pressure on teachers to differentiate more in the classroom. ... We don't have enough teaching staff or infrastructure to like truly provide a tiered system of support for all learners” (Participant G1)

These same factors led to high rates of teacher absenteeism. One district leader remarked that “teacher absence, absentee rates are through the roof, still, even now”

(Participant G2). A shortage of substitute teachers further exacerbates the problem of teacher absences. Another administrator from the same district explained that planning for teacher absences on any given day is now a huge part of the principal’s job.

On any given day we may have fifteen to twenty staff in the building absent. ... this becomes almost an hour of our principals’ time in the morning, just facilitating how they’re gonna teach kids ... how many classes are we putting in the media center and who’s gonna watch them? (Participant G1)

The experiences described by teachers and administrators in this study are consistent with accounts about teacher burnout nationwide (Westphal et al., 2022). Moreover, these staffing challenges extend beyond teachers to include counselors, bus drivers and lunchroom staff. One administrator remarked, “The big thing on my end right now ... is just staff shortages, para pro help, special ed help ... Jobs are posted, people are not there” (Participant K3). The challenge is particularly acute in rural districts. A superintendent of a tiny rural district noted that they have a small labor pool in the best of times, and COVID only made it tighter (Participant A1).

Administrators recognize that they need to provide teachers with more support, but cannot find effective solutions. Superintendents from both a remote, rural district and a middle-income suburban district in the Midwest explained that they offered bonuses to fill empty positions, but still struggled to find qualified applicants. For the rural district, the bonus could not make up for the challenges of living in a remote area:

I got a twelve thousand dollar signing bonus for anybody hired in at step one, and they get twelve grand for the next three years on top of their already high salary. ... we don’t lose teachers here because of pay, we lose them because of isolation... We live out in the middle of nowhere, and they miss being able to go to Five Guys and get a burger (Participant A1).

A low-income, urban district advertised open positions, but got few responses: “Jobs are posted, people are not there” (Participant K3).

Two districts explicitly discussed investing in mental health programming for teachers. A district administrator in that same low-income, urban district emphasized that

their opening speaker for staff professional learning that year brought a “focus on the SEL of the adult” (Participant K1). In addition their efforts to hire additional support staff to relieve some burden from teachers, the assistant superintendent in a middle-income, urban district explained how they have offered a variety of professional development experiences focused on staff wellness:

The focus on student and staff mental health and wellness has stayed ...we had one whole track for staff...done a lot of professional learning in that (Participant B2).

Interestingly, the emergence of videoconferencing brought some unexpected benefits to teachers and administrators. Teachers indicated they are participating in more professional development (PD) online, including programs sponsored by their districts. Administrators emphasized the convenience afforded by virtual PD, particularly when the district wants to offer the experience to teachers in different physical locations who may have different schedules (Participants I1 and E4).<sup>3</sup>

During the height of the pandemic in 2020, all staff meetings were conducted via video conferences. By the 2022-23 school year, however, all teachers and administrators with whom we spoke reported that school staff meetings and building-level teacher interactions were back to being fully in-person. At the same time, they reported that some district and regional meetings have remained virtual. Respondents in 10 districts said that they attend at least some meetings virtually. Principals were particularly enthusiastic about this arrangement because it allowed them to interact with their peers but also remain in their buildings to deal with any urgent issues that arise.

### *Conditions for Change*

The teachers and administrators with whom we spoke eloquently described the intense pressure on school staff post pandemic, and how burnout is leading to severe staffing

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<sup>3</sup> One administrator indicated that vendor availability played a significant role in the move to virtual PD, noting that it is harder to get vendors to do in-person professional development today and that virtual PD is always cheaper for the district (Participant G2).

challenges that negatively impact students. They described many efforts to address this problem, most of which involved well-trod strategies such as advertising, hiring bonuses, salary increases and wellness focused professional development. With few exceptions, they indicated that these strategies had failed. Yet, none of the respondents in our study mentioned more radical changes to teacher training, recruitment, staffing or retention.

Why, despite the urgency of the problem and the failure of existing approaches, do we see relatively little change in practices relating to school staffing? One likely reason is the lack of feasible alternatives. More radical approaches are either in their infancy, or have not shown convincing evidence of success. For example, some Arizona and Michigan schools have tried pairing novice teachers with expert teachers to jointly cover much larger classes of about 100 students (Weiner et al., 2024). Another model that has received some attention involves a large-scale, in-school tutoring program staffed by high school and college students, perhaps relying on intelligent tutoring technology, which would free time for teachers to engage in professional development or work with small groups of children on particular skills (Kraft & Falken, 2021). However, these models are still in their infancy and the evidence on earlier versions of personalized learning platforms were not encouraging.<sup>4</sup> As recognized by organizational scholars over the past several decades, the existence of a solution that offers practitioners sufficient guidance and support is an essential part of institutional change (Cohen & Mehta, 2017).

Another likely explanation for the lack of change in staffing is cultural. The COVID-19 pandemic did not change how practitioners, parents or the broader community view the role of teacher. There is still a widely shared perception of a teacher as a single adult who is responsible for providing all aspects of instruction to a relatively small group of children.

Finally, political and legal factors remain roadblocks to reform efforts. Teacher’s

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<sup>4</sup> A personalized learning platform known as *Teach to One* was scaled to dozens of schools across multiple states there is little evidence that it improved student learning (Barnum, 2019).

schedules, hours, and responsibilities are codified in state and local policies and, in many cases, local union contracts. Even as the issues surrounding teacher supply persist, breaking away from these traditional structures, whatever that may look like, will require a well-articulated alternative that is able to garner significant political support.

### Discussion

Teachers and administrators in our study describe a school system that was dramatically affected by the COVID-19 pandemic. We explore if and how these effects resulted in persistent changes to school practices and routines. While some pandemic-era changes like remote staff meetings reverted quickly, other changes have endured. Notable enduring changes include the adoption of personal devices and LMSs, personalized instruction, a greater focus on student mental health, and the use of videoconferencing for parent-teacher communication.

In the “conditions for change” sections, we draw on theories of institutional formation and organizational change to explore why certain changes persisted. We demonstrate that these shifts in practice depended in large part on the extent to which the change 1) addressed what *practitioners* viewed as a *significant* problem, 2) leveraged an existing, effective solution, 3) conformed with social norms and values, and 4) aligned with political and economic interests. For example, the use of virtual platforms for parent conferences addresses pre-existing challenges that parents and teachers had with in-person meetings, utilizes (newly) accessible and familiar technology, aligns with post-pandemic expectations, and has strong support from district and community leaders.

We also identify practitioner capacity as a particularly important factor shaping the persistence of educational changes. Richard Elmore remarked that asking teachers and school leaders to learn and implement new practices is akin to asking them to “learn, think, and form their identities in different ways...in short, asking them to be different people” (Elmore, 2016). The unique context of the pandemic mitigated this barrier. By forcing teachers to become facile with a wide range of new technologies and, more importantly,

with novel ways of interacting with children and parents, COVID-19 transformed teachers into different people than they had been before. Teachers’ increased capacity with these tools has made it easier to integrate them into in-person learning, whether to differentiate, facilitate remediation, organize learning materials, or grade student work.

The four conditions we highlight also help us to better understand why some pandemic-era changes did not take hold in most schools. Two examples that repeatedly came up in our conversations with school staff include remote learning and teacher staffing. For most districts in our study, fully remote learning no longer addressed a pressing problem, it rarely proved to be a fully effective solution, it fell out of favor with many parents and educators, and it lost political support. While problems around hiring and retention persist, none of the schools in our study had adopted any novel approaches to staffing, likely because few effective and scalable alternatives exist. Additionally, social and political constructs about what the teachers’ role looks like are well entrenched and prevent schools from experimenting with alternative models.

Standardized testing is another interesting example. During the pandemic, many states stopped requiring schools to administer standardized tests. By 2022-23, all districts in our study (and nearly all districts nationwide) had resumed their prior assessment regimes. Respondents in our study rarely mentioned testing as an issue. It seemed as if they had never contemplated that it could or should have changed post-pandemic. In contrast, the adoption of test-optional college admission policies that were adopted during COVID-19 appear to have become institutionalized in many places. Given our understanding of the conditions for change, the return of K-12 standardized testing is not surprising. Although some parents and practitioners continue to view standardized tests as an unhelpful distraction, it is not viewed as the pressing problem that it was during the height of No Child Left Behind or later during the battle to rollout new, high-stakes teacher evaluation systems. While benchmark assessments can guide teacher practice, there is no widely accepted alternative for tracking progress at the school or district level.

Finally, standardized testing is both socially and politically entrenched, and is codified in federal, state and local policy.

Of course, even the changes we identify as persisting may revert at some point. The instructional changes we document were largely driven by the post-pandemic needs of young people. It is possible that they will fade as children regain the academic and emotional ground they lost during the pandemic. Fewer teachers may rely on digital tools to tailor instruction once the “COVID cohorts” have aged out of the system. On the other hand, there has always been substantial variation in student skill within many public-school classrooms, and teachers have always struggled to differentiate. Now that they have access to more instructional technology and, perhaps more importantly, familiarity with using such tools, it is not obvious they will stop. Teachers also may be reluctant to give up the other benefits of instructional technology described in this study, including how they facilitate grading and feedback. If we had to guess, we would say that the “steady state” level of instructional technology use in K12 schools will remain higher than pre-COVID.

The continued investment in social-emotional well-being in K12 schooling is also an open question. While the immediate impacts of the pandemic on student wellbeing likely will dissipate over time, many educators gained an appreciation for the importance of this issue during the pandemic. Moreover, schools invested in SEL programs and training over the past few years. Given the prevalence of school shootings, students’ access to traumatic content from around the world, and the documented impacts of social media on young people’s mental health, it seems likely that these resources will remain an important part of school infrastructure moving forward.

For educational leaders and policymakers, a key question is whether the changes we describe will benefit students. While our study was not designed to answer this question per se, some of our findings illuminate potential concerns. Recall the educators who worried that a focus on technology was hindering student development in handwriting, and those who were intentionally building in interactive and tactile activities. Indeed, just as

more schools take advantage of personalized reading programs like Lexia, new research suggests that reading comprehension may be higher for students who read texts on paper versus on digital platforms (Froud et al., 2023). Similarly, recent research has raised concern that school-based mental health campaigns can perversely *increase* the prevalence of depression and anxiety (Foulkes & Andrew, 2023). Moreover, the effects of the changes we document will change as the technology itself evolves (e.g., the integration of new AI technologies into personalized tutoring systems) and teachers continue to learn from their experiences. Practitioners and researchers should closely monitor these developments and their impact on children in the years to come.

Beyond concrete changes like the use of instructional technology, respondents spoke of less tangible ways that COVID-19 changed the perspectives of those engaged with K12 schooling. These were among the most inspiring moments in our conversations. For example, the principal of a middle school in a large, high-poverty district described a new mentality among teachers in her district, “I think we have all become more readily able to adapt . . . we’ve all learned to assess what we have in front of us and make the adjustments we need to ensure that students are successful” (Participant C2). In summarizing the broader impacts of the pandemic, one district administrator emphasized how it made people appreciate the vital role played by schools:

Learning how to do school was really important and we saw that when students were not in school. From a micro and macro level, the environment that a school creates to support you growing up ... we realized how needed this network is, of education both academically and socially, in growing our citizens up to be productive in the world. And we are happy to have everyone back.  
(Participant I1)

At the end of the day, this realization may be one of the pandemic’s most enduring legacies.



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**Table 1.** *Study Participants*

District	Location	Participant	Role	Gender
A	Midwest	A1	Superintendent	M
B	Midwest	B1	3rd Grade Teacher	F
B	Midwest	B2	Assistant Superintendent	M
C	Midwest	C1	Technology Specialist	F
C	Midwest	C2	Middle School Principal	F
D	Midwest	D1	Elementary School Principal	F
D	Midwest	D2	Superintendent	M
D	Midwest	D3	3rd Grade Teacher	F
D	Midwest	D4	5th Grade Teacher	F
E	Northeast	E1	Superintendent	F
E	Northeast	E2	3rd Grade Teacher	F
E	Northeast	E3	1st Grade Teacher	F
E	Northeast	E4	Elementary School Principal	F
F	Midwest	F1	Technology Director	M
G	Northeast	G1	Technology Coordinator	M
G	Northeast	G2	Assistant Superintendent	M
G	Northeast	G3	5th Grade Teacher	F
G	Northeast	G4	4th Grade Teacher	F
G	Northeast	G5	3rd Grade Teacher	F
H	Midwest	H1	District Administrator	F
H	Midwest	H2	High School Principal	F
H	Midwest	H3	Middle School Teacher	F
I	Midwest	I1	District Administrator	F
I	Midwest	I2	Elementary school teacher	F
I	Midwest	I3	Middle School Teacher	F
J	Midwest	J1	High School Teacher	F
J	Midwest	J2	Elementary School Principal	F
K	Midwest	K1	School Improvement Coordinator	F
K	Midwest	K2	Classroom teacher / instructional coach	F
K	Midwest	K3	Middle School Principal	M
L	Northeast	L1	Superintendent	M

**Table 2.** *Districts Summary Statistics*

District	Size	Urban	Econ. Dis. (%)	Black or Hispanic (%)	Trump Vote Share (%)	Mode Fall 2020	In-person days (%)
A	93	Rural	54%	2%	60%	In-Person	89%
B	3,790	Urban	38%	27%	24%	Virtual	44%
C	13,787	Urban	78%	70%	30%	Virtual	0%
D	2,563	Suburb	28%	14%	36%	Virtual	0%
E	6,845	Suburb	8%	9%	18%	Hybrid	27%
F	13,304	Urban	36%	17%	49%	In-Person	89%
G	6,440	Suburb	53%	57%	44%	Hybrid	14%
H	2,171	Rural	80%	34%	43%	In-Person	100%
I	4,888	Suburb	14%	6%	43%	Hybrid	33%
J	8,479	Suburb	19%	8%	58%	Hybrid	0%
K	5,424	Urban	77%	42%	42%	Hybrid	0%
L	3,539	Suburb	30%	13%	50%	Hybrid	29%