



## Zoom School Diaries: Caregiver Insights from Listening In on Synchronous Instruction

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**Abstract:** Continuing schooling during the Covid-19 pandemic dramatically changed the way students, families, and teachers engaged with school and academic content. Remote instructional methods utilized by schools to reach students in their homes often relied on internet-based communication tools and individualized learning platforms, and divided instructional time into two categories: synchronous and asynchronous. We consider how synchronous learning moments, defined as live interaction between the focal children and their teachers via video or phone calls, were experienced by 109 families of elementary school children across the U.S. Specifically, we examine who had access to synchronous lessons, what happened during those lessons, and what parents and other caregivers noticed given their proximity and ability to observe the lessons first hand. We discuss how the sense of connection to peers and teachers that the synchronous interactions provided was critical to engaging students with school during the transition to distance learning.

### Introduction

Few events have shocked the U.S. education system as much as the sudden shift to distance learning during the onset of the Covid-19 pandemic in the spring of 2020. The situation presented challenges for educators and caregivers for which there was little guidance. School personnel did their best to sustain learning and provide for students' basic needs, leading to a patchwork of approaches that depended on the resources of each family, school, and district (Anderson & Hirra, 2020; Reich et al., 2020). Caregivers were expected to help their children keep up their academics, motivation, and social-emotional learning, as well as balance competing demands from work and existing responsibilities (Fontenelle-Tereshchuk, 2021; Garbe et al., 2021). Across the developed world, caregivers struggled to access distance learning due to a lack of digital resources, lack of communication with the teachers, child learning differences, and limits of their own content and pedagogical knowledge (Bhamani et al., 2020; Dong et al., 2020). Large scale data from the Household Pulse survey indicates that overall in the U.S., parents were doing what they could to help their children continue with their academics during distance learning and that the number of "live" contact hours with teachers correlated with the amount of time children spent on schoolwork (Bansak & Star, 2021). However, low-income families were less likely to have regular, synchronous contact with their teachers during remote learning in addition to less access to computers and high-speed internet, critically impacting the quality and quantity of instruction these students were able to receive (Bansak & Star, 2021; Katz & Rideout, 2021). Although analyses based on large scale data are critical for beginning to specify the resources that contributed to resilience, to understand how and why synchronous sessions supported learning we need documentation of the interactions that took place. Qualitative work has begun to explore how caregivers supported their children's learning (e.g., Barron et al, 2021; Bhamani et al., 2020; Sonnenschein et al, 2021). This paper contributes to that line of work.

We present findings from a remote diary study conducted with families across the U.S. focused on understanding how families were adapting to remote learning. Our analysis explores examples of synchronous moments that caregivers reported. We examine what happened in these learning moments (e.g., content, structure, engagement) and what caregivers noticed through observing their children engaged in synchronous learning. We define a "synchronous activity" as a learning moment that includes live interaction between the focal children and their school teachers facilitated via video conferencing or phone calls. While many other kinds of synchronous learning took place in the moments that caregivers described in the study (e.g., reading to younger cousins over FaceTime), we have deliberately limited the scope of the activities in this analysis because of the novelty of the medium of instruction at this scale, weight placed on synchronous instruction for students during the pandemic, and the lack of equity of access. Our findings complicate the story of synchronous school-based remote learning during the pandemic, highlighting the social and emotional benefits the live communication with their teachers and peers provided for the children during a time when social activity was restricted. We also describe how caregivers and teachers played complimentary roles in fostering a sense of connection between home and school for the children through synchronous learning moments.

## Theoretical framing

Coordination across spaces in children's learning ecologies (Barron, 2006) and the creation of systems of support for children's social, emotional, academic, cognitive, and physical wellbeing (Darling-Hammond et al., 2019) are critical for healthy child development. One aspect of that is caregiver involvement with schooling, which is known to be positively associated with children's academic success in the U.S., both for in-person schooling (Smith et al., 2020) and virtual school environments (Garbe et al., 2021). Positive home-school relationships shape children's sense of belonging in school environments. Yet crossing the boundary between home and school to advocate for their children's individual needs requires caregivers to develop and maintain working relationships with their children's teachers (Lawrence-Lightfoot, 2004). This amount of time and effort is often out of reach for caregivers who do not have work flexibility or may face a language barrier (Valdez, 1996). When the pandemic forced home and school to be co-located, although many of these factors remained challenging, new opportunities emerged for caregivers and teachers to cooperate and establish multifaceted systems of support to foster healthy learning environments for the children under adverse circumstances.

During synchronous sessions caregivers were often actively engaged, providing technical assistance, supervising or simply keeping their child company, and taking the opportunity to observe interactions and listen in on classroom discussions. Observing and listening in on activities and events are modes of active learning that Rogoff et al (2003) describe as learning through "intent participation." Much of the previous research on intent participation has come from examining how children learn to participate in everyday practice that shapes community life (Rogoff et al, 2003; Rogoff, 2014) as well as in more structured learning environments (e.g., Jocuns, 2008). However, intent participation could also be used to describe how caregivers of young children learn to shape their interactions with their children based on their noticings of their children in different settings. Caregivers regularly take on new responsibilities and roles to meet the needs of their children (Barron et al., 2009), gathering information on how to do so through formal and informal sources (e.g., family networks or child-rearing classes; Radey & Randolph, 2009). Rarely do they need to do so under such unusual conditions as a global pandemic. Given the enormous challenge for maintaining motivation during school closures, we focus on what parents noticed about what facilitated their child's positive engagement with school during video-mediated classroom interactions. Our analysis draws on situated views of learning that conceptualizes engagement as dynamic, multidimensional, and often connected to idiosyncratic social or activity-based preferences (Azevedo, 2013). We foreground how caregivers described the relational, material, participatory, and content-related resources that contributed to their children's enjoyment of synchronous sessions.

## Methods

In May and June 2020, we collected over 700 reflections, including 668 diary entries of learning moments, from 109 families with children aged 5-10 using *dscout*, a smartphone-based remote qualitative research platform (Barron et al., 2021). Using a smartphone-based app allowed us to collect multimodal in-the-moment data from busy caregivers as they went through their days and observed their children learning. Our method foregrounds the perspectives of caregivers which gives us unique insights into the roles caregivers were playing during the stressful months early in the pandemic where they were forced to balance competing priorities of work, child care, and schooling. We recruited from *dscout*'s participant panel. Our criteria for participation were: (a) having a child between ages of 5-10 living at home, (b) the child's school had moved to remote instruction and was in session for the entire duration of the study, and (c) the applicant had given consent for their responses to be used for research. Over 1,000 people applied to be part of the study. We sorted applicants into low (\$0-49K), middle (\$50-99K), and high (\$100K+) income groups and randomly selected 37 participants from each group to ensure a diversity of socioeconomic status in the sample. In total 109 caregivers completed the study. They were from 28 states and were mostly women (67%) with children in public elementary schools (84%). Racially, 55% self-identified as white, 16% as Black, and 15% as Latinx, 9% as Asian, and 4% as Middle Eastern or North African. Slightly over half (55%) of the caregivers reported an annual household income of at or above the national median income of \$75k. Participants were paid \$75 at the end of the study.

Data collection was organized around five themes: (1) relationship to school pre-pandemic, (2) relationship to school during distance learning, (3) daily learning moments, (4) how the family learned about Covid-19, and (5) reflections. For each theme, participants answered a series of questions using short videos, photographs, survey questions, and direct messages to the researchers. Theme #3, daily learning moments, is where we draw data for this analysis. Data for these moments included a 2-minute video, transcribed, of the caregiver explaining and reflecting on a learning moment they observed that day, a photo of the activity, as well as multiple-choice survey style items where the caregivers reported the subject of the activity (e.g., art, writing, math), how much learning they perceived to be happening in the moment, and how engaged the child was with the activity (e.g., how much fun they were having.) For this part of the study, we asked caregivers to share six

learning moments they observed over the course of a week. Of the 668 learning moments we received, 128 (18%) were identified as examples of synchronous video or phone-enabled interactions with teachers through multiple rounds of qualitative coding.

Next, we employed a mixed-methods analysis to explore the following questions: (1) Across the whole sample, how did access to and the content of synchronous learning experiences vary by family demographics? (2) How engaging were synchronous learning moments for the children and what did they look like? (3) What do caregivers learn about their children's experience in distance learning as a result of listening in, observing, supervising, and assisting with instruction? To understand the distribution of synchronous moments across our sample, we used statistics to analyze caregiver responses to survey items about what their child's school provided for remote instruction, including communication channels with the teacher. Next, using iterative rounds of inductive and deductive coding, our team developed a codebook for a thematic analysis of the structure, challenges, benefits, and caregiver insights present in the caregiver descriptions of the events (Saldaña, 2011) and applied the codebook to the sample. Additionally, to deepen our interpretation of what was happening in the learning moments and what caregivers were attending to, we looked at our coding of the synchronous activities in relation to the standardized data the caregivers reported about the details of the learning moments, including child engagement.

## Findings

In the sections below, we utilize descriptive statistics to explore the question of equitable access (research question #1) and show the variety of content and structure of the synchronous activities (research question #2). We further illustrate the aspects of synchronous learning moments that facilitated positive student engagement (research question #2) and how caregivers acted as partners in supporting that engagement (research question #3) with representative qualitative examples.

### Access to synchronous lessons

In the overall sample of participants (n=109) higher-income families (annual incomes above the national median of \$75k) were more likely than lower-income families (annual incomes less than \$75k) to indicate having access to synchronous classes, other types of family-teacher communication such as individualized messages from teachers, and access to teacher-recorded video content (Table 1).

Table 1. Reported access to synchronous opportunities by income group

	N	Median income groups		$\chi^2$	<i>p</i>
		Higher	Lower		
Synchronous classes	109	92%	72%	6.48	0.01
Individualized messages from teachers	109	90%	67%	8.6	.003
Teacher-recorded video content	109	68%	47%	5.1	0.02

The sub-set of 128 examples of synchronous learning we identified through iterative rounds of coding came from 71 families (65.1%). The caregivers who submitted these moments did not differ significantly from the rest of the whole sample (n=109) by income (54% above \$75k annual income).

### Positive engagement in synchronous lessons

In the diary entries of learning moments, caregivers reported their children's positive engagement on a Likert scale item with rating options from 0-10. A one-way ANOVA revealed a significant difference in caregiver perceptions of synchronous and non-synchronous moments ( $F(1,666) = 9.49, p = .002$ ). Overall, caregivers rated synchronous learning moments as more engaging ( $M = 7.73, SE = .240$ ) than non-synchronous moments ( $M = 6.90, SE = .117$ ). About 60% of synchronous moments (77 of the 128) were rated as highly engaging, meaning they were higher than the median engagement score across all learning activities documented. Through parent ratings and descriptions of the moments, we were able to explore what caregivers noticed that might have made these synchronous learning moments engaging.

### Structure and content of engaging lessons

Whole class meetings were the most common (55%) of several ways that caregivers reported their children participating in synchronous lessons. Children also participated in small groups (12%), had one-on-one meetings



with teachers (9%), and received special education pull-out instruction (4%). Over three quarters of these meetings were structured in some way (82%) while a minority were unstructured (9%). There were no meaningful differences in caregiver ratings of engagement by the structure of the synchronous moments.

The most commonly covered academic content in synchronous lessons was reading (32%), followed by mathematics (27%), science (15%), and writing (15%). The activities that were more likely to be rated as highly engaging, however, were either art or music ( $X^2 = 5.7, p=0.02$ ), and the ones less likely to be highly engaging were math lessons ( $X^2 = 8.17, p= 0.004$ ) and writing lessons ( $X^2 = 10.66, p = 0.001$ ). Alice described how her kindergartener's weekly Zoom music class provides "A little bit of normalcy and all this crazy times":

Her music teacher comes on and then she can see her teacher as well as all the other children in her class. So it lasts about a half an hour and my daughter absolutely loves it. She loves doing it. She loves music. They play games, they play songs, and do little dance moves and everything like that. [...]The teacher is able to mute them and unmute them and sing along and call on people and things like that. So my daughter really enjoys it.

Alice's attention to the positive experience her daughter has in music class encourages her to keep logging on to the class each week. Indeed, this attention to the importance of social, emotional, and content-related interactions emerged across the synchronous sample as was made evident by what aspects of the synchronous moments caregivers highlighted in their documentation.

#### Engagement fostered through teachers caring and connecting

Caregivers noted the importance of synchronous sessions for supporting a sense of connection to peers and for providing opportunities for teachers to communicate their caring for students' well-being. For example, Dillon reflected, "this one was pretty cool for the teacher to make the time to keep my child feeling cared for. [...] my daughter was doing a one-on-one check-in with her teacher and they were just talking about various things catching up on what was going on in her life and a few other things." The emotional benefit for his fourth-grade daughter of having a one-on-one check-in with her teacher was great since she had liked her teacher and "was sad when the school year got cut drastically short. [...] The interaction went really well and she was pretty happy to get that one-on-one attention which my child tends to thrive on."

In another example, Ida, mother to second-grader Lani shared her observations of a whole class Zoom:

[I]t's a good thing that they do this [...] twice a week, to kind of like you know, talk about the book they're reading, learning about vocabularies, or either you know, just kind of keep track of what they are working on this week. And I like the idea of doing this because they get to see their friends, their classmates and their teacher and say hi, and what have they been doing for the past few days or weeks. And it's very engaging, and I like when my daughter is able to share her... whatever she's been doing for the past few days, and [...] check in. So they [are] kind of like, slowly, [...] making sure that the kids stay on track as far as their grade level.

Ida describes a Zoom meeting in which the class is reviewing the content they have been working on and has an opportunity to connect face-to-face. The purpose of the time together is not necessarily to learn new content or complete an assignment. However, these twice-weekly meetings keep Lani engaged with her class and reflect care and attention from her teacher.

#### Engagement fostered through teachers welcoming children's interests and identities

Caregivers also noticed their children enjoying synchronous lessons when they had the opportunity to share their interests and aspects of their identities with their classmates. Being given more agency over what they brought to class was motivating for the students. Some examples caregivers shared were times where the children brought items to Show and Tell, dressed up as superheroes, or had open sharing time to talk about things on their minds. Other moments tied more directly to the content of the class. For example, Billy's second-grade son was disappointed when schools closed, and "he could not have science class in person anymore." However, his teacher organized a virtual lab for the class, and "when he learned he was going to have a virtual lab he became really excited." Billy commented on how his son was "intrigued the whole time. And he was telling me about the different stages of a scientific experiment, and how he was making observations about what he was seeing. So overall, it went really well, and he seemed to love it."

School routines that were transferred to Zoom were also opportunities for student agency in some schools. Layla shared how her kindergarten daughter "was glowing" when she was chosen by the school principal to

display the Israeli flag and lead the school in the Israeli national anthem. She explained, “ever since Israel had its 72nd birthday [...] my daughter wanted to make a flag for that country”. She went on to describe how the school met every morning to say the pledge of allegiance to the US flag, but then also included flags and anthems from different countries when students express interest in sharing their own.

### Caregivers as partners in supporting positive engagement

Through leading synchronous sessions for their students to be together virtually, or connect one-on-one with students, teachers enabled opportunities for social and emotional connections that would not have been possible otherwise under the shelter-in-place orders and social distancing guidance. Teachers facilitating these learning moments for students provided an opportunity for caregivers to take a step back and watch how their children reacted to the sessions, and come up with strategies to support their children from home.

#### Synchronous lessons reveal complicated emotions

Throughout the reflections from caregivers on their children’s positive engagement in synchronous lessons, caregivers highlight the value of maintaining a social connection to peers and teachers for their children’s emotional well-being. During a difficult time filled with fear and uncertainty, synchronous class meetings and activities provided caregivers insights into how their children were handling the situation. For Maggie, a poetry assignment helped her understand what her fourth-grade son was thinking and feeling:

So I'd say it was successful but not necessarily for the academic purpose of it. But we're not really using Zoom at the elementary level for instructional purposes anyway so it was just kind of a bonus educational activity today that a couple of kids shared poems but was far more social and importantly so. [...] I think it was a really good activity just because you know it kind of let me see the things that were on his mind that he hasn't necessarily been expressing [...] I think it was you know it's definitely something I'm going to save to kind of earmark this time in his life. So I'm glad it was an assignment we had. [...] I do think it proved a good exercise in emotional wellness.

The poem Maggie’s son wrote was titled, “Empty Soccer Field,” and expressed the sadness he felt not being able to play soccer with his friends at the time.

When teachers provided forums for students to share and express their identities, parents noticed engagement but that engagement was often complex. Brie gave an example of how her first-grade son’s teacher opened their thrice-weekly morning meetings with “Does anybody want to share?” Students would read to each other and show off their pets, and Brie’s son “enjoyed showing his ladybugs and his roly-polys [laughs] and his other bug pets.” While Brie notes that “when he goes, he’s always wanting to share, and listening to his friends share,” she also says that he reports that he does not like the class meetings. She reflects, “So, it's kind of funny to me that he doesn't like them. I just think he doesn't really like the online-- He has not enjoyed like, online play dates or any of the online interactions with friends. It's been really difficult for him. He misses actually being with friends and really playing.” Through listening in on her son’s class meetings, Brie was able to see her son’s continued reticence to socialize online, even if there are aspects of it that he did enjoy.

#### Caregiver strategies for supporting positive engagement in synchronous lessons

From the other side of the camera from the teachers, caregivers took up multiple roles for supporting their children’s engagement during the synchronous lessons. Some encouraged hesitant children to attend, such as Connie who reports she and her husband encourage their fifth-grade daughter to participate so that she “stays connected with her teacher and classmates. I think it helps keep her engaged in doing the online E-learning classwork.” While children were logged on to their video classes, caregivers were often close by listening in on what was happening (e.g., actively attending to the child’s actions or interactions with the teacher or their peers), actively supervising (e.g., assisting in time and task management), or taking on a teaching role to modify instruction live to meet their children’s needs.

Modifying instruction often occurred when the children were confused during the lesson and did not have a good way to get their questions answered by the teacher. For example, Arielle’s fourth-grade daughter Cami got lost during a math lesson, and Arielle, who was listening in next to her, stepped in to help Cami get back on track. She explained:

So [Cami's] teacher was going a little fast, because they are learning-- they're learning at a fast pace, because school is now wrapping up, so she's trying to squeeze a lot of stuff in. So [Cami]



was getting very, very confused, and I had to mute her and turn off the camera and kind of re-explain the concepts to her. I also did it in the traditional math way instead of the Common Core, which has 10 steps. And she got that way better, so I would like to think that I am a secondary teacher for her.

In this moment, Arielle was supervising Cami because after the previous class was over, “she turned her camera off and muted herself. So she had thought that she could just hang out on her phone. So I just sit there, do my work right next to her, and make sure that she took notes and did the assignment and asked questions and just participated.” Arielle’s insistence that Cami participate fully in the synchronous lesson ended up not being fully realized in that she effectively pulled Cami out of the classroom for private instruction using different pedagogical strategies than the teacher. However, by engaging with the content, they did surface an area of confusion for Cami and addressed it immediately.

Jade also kept a careful eye on her fifth-grade grandson Henry, who had an IEP, and stepped in to advocate for his learning and help manage social interactions. For example, when Henry was put in a small group with classmates to write a collaborative report on the U.S. “Founding Fathers,” his classmates ignored him. Jade noticed the negative dynamic and shared that, “I’m not gonna have the other kids close him out and him trying to work on it on its own. I’m trying to figure out a way if maybe he can do a report on a founding father on his own, and I need to check with the teacher maybe do it that way.” Synchronous classes were hard for Henry to keep up with, and sometimes he would switch to listening to audiobooks or working on a personalized learning platform instead of following along with the class. Jade supported these activities and ran interference to try to make Henry’s live interactions with teachers and peers a positive experience.

Helping children manage their emotions, stress, and anxiety was also a responsibility that some caregivers took up explicitly. Ramira, for example, shared how her fifth-grade daughter came to her to ask questions instead of asking the teacher because she wanted to finish her work before the end of the lesson since it was the start of a holiday weekend. “During the event she was getting anxious about finishing her work due the holiday weekend” shared Ramira, “She was engaged by asking me questions and muting and not wanting to finish, and finally after some coaching, she was able to focus and concentrate.”

Caregivers also attended to the physical arrangements that their children set up for themselves to be comfortable during synchronous lessons. This view into their children’s preferred working environment was possible due to the caregiver’s observing and supporting their children to experience synchronous instruction as positively as possible given the constraints of the time. For example, Matt, caregiver of third-grade Oliver, noted that Oliver “likes to snuggle up with the dog and blankets. Been doing it, and I think it gives him comfort when he’s online with his classmates.” One day during the morning meeting the class was sharing who they admire most and Oliver said he admired the dog. Matt reflected “it is true because that dog does give him comfort, and he likes to be the class clown- [...] teacher didn’t yell at him. I don’t know that I thought it was super appropriate, but it seemed to work for him.” Mariah also noted where her fifth-grade daughter was comfortable taking calls: from her bed but dressed up “so she can kind of show off her classmates and to make sure she looks the best :-).” Mariah takes a hands off approach to give her daughter space to connect with the teacher and classmates on her own. “When she does her zoom calls I pretty much kind of stay out of it,” Mariah shared, “I want her to have that time away from me to be with her teachers and to be with her classmates so that she can have the slightest bit of normalcy.”

## Discussion

Given the rapid transition to remote learning, the varied responses and capacity by districts across the US, and the widespread utilization of technology tools for school-to-student communication and lesson delivery, we set out to understand how families experienced school-driven synchronous moments. We found that caregivers whose household income was below the national average reported less access to synchronous classes as well as other family-teacher technology-mediated interactions, and shared fewer synchronous moments in their learning diaries. This is especially critical in light of our other findings that highlight the benefits of synchronous moments that reach far beyond just being academic content delivery mechanisms. Synchronous sessions tended to be recognized by caregivers as highly engaging for their children. Encountering and fostering positive social interactions and emotional connections to school during the difficult transition to distance learning was important to caregivers. Our finding aligns with Katz and Rideout (2021) who conducted a nationally representative study of underconnected, lower-income families (less than \$75k annual income) and found that top priorities for their children upon returning to school in the fall of 2020 were social or emotional (50%). Their study also underscores the inequity of lower-income families not having access to synchronous opportunities which we found to provide generative moments of social and emotional support.

Additionally, we found that as caregivers attended to their children's reactions and engagement with synchronous lessons, they reflected on how the content, structure, and relational components of the sessions contributed to their children's experiences. These findings also align with Katz and Rideout (2021) who found that parents of 3-13 year-olds felt that they knew more about their child as a learner (66%) and more about the content and structure of school (62%). In some cases, especially when student engagement or focus was a challenge, caregivers used what they knew about the activity and their child and took an active role in mediating their children's engagement with the lessons to support a positive outcome for them. This action was typically not possible before the pandemic. While teachers and schools scaffolded synchronous opportunities, parents were on the other side of the camera with their kids providing a supporting role using a variety of strategies. They mediated moments of potential meltdown by stepping in to turn off the camera and providing extra coaching about the material or letting them skip a session altogether, they gave reassurance and coaching for anxious learners, and they helped create the physical conditions that offered comfort and security for engaging in synchronous learning moments.

Together, these findings suggest a more complex picture of online learning during the pandemic. Synchronous sessions were not always just a re-creation of school lessons; many engaged young people through supporting peer-to-peer and student-to-teacher connections and opportunities for personal expression and agency. The live interaction with teachers and peers provided by synchronous learning moments fostered a sense of connection and stability that was critical for well-being during the uncertainty that marked the beginning of the pandemic. Yet in our data, the incidental partnership between teachers and caregivers made it clear how caregivers were playing a supporting role for their children during these synchronous moments, adapting and reacting in the moment depending on what they noticed, often bolstering engagement. More research is needed to understand how a sense of connection with peers and teachers was maintained for the families who did not have that live interaction with school during critical points in the pandemic. In our sample, caregivers who worked during the day did find ways to connect with schools, despite being unable to connect synchronously. These included caregivers who watched previously recorded zoom sessions with their children and others who found other ways to communicate with teachers and peers

Further, our qualitative findings are consistent with larger studies showing relationships between online synchronous connections and metrics of engagement in learning (e.g., Aguilar et al., 2021). This convergence between studies warrants future research that can offer deeper explanations for how and why synchronous connections may support engagement in the moment and over time. Experiments and broader ethnographic studies that include a more diverse set of family situations can offer theoretically rich and design-relevant data. In addition to new research designs, multiple measures of engagement will be useful in advancing this work. Our parent rating of engagement in activities is novel and future work can be designed to validate such ratings through designs that include children's views or interactional metrics of participation in learning moments.

## Conclusion

Nearly two years later, Covid-19 continues to have a lasting impact on families and schools. Large-scale reports detailing the "learning loss" shown through standardized testing data devalue the efforts by teachers and caregivers to attend to children's well-being during the pandemic, and the learning partnerships that emerged in response to the disruption of the pandemic. Findings from our analysis have implications for emerging models of schooling for the rest of the pandemic and beyond, fostering positive engagement with school and child well-being, as well as for future educational research centered on families. With regards to the former, the experiences of our families in this study highlight the importance of having real-time interactions with peers and teachers for academic and social purposes. Future models of home-based learning in the "new normal" must capture those benefits while also taking into account the additional burden placed on caregivers by the technical and pedagogical challenges introduced by synchronous remote learning. However, our results point to promising directions for increased communication and coordination between teachers and caregivers allowing for students to engage in more personalized and interest-driven learning as part of academic instruction. Additionally, the data suggest that having synchronous interactions within a virtual school context helps learners and caregivers feel connected to teachers and peers. Synchronous connections may be an important source of educational resilience, allowing parents and children to cope with the challenges presented by distance learning and sustain or increase their enjoyment while learning.

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