

New Views, New Roles: How Parents Supported Learning During the Transition to Remote Learning

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Abstract: Sweeping pandemic-driven school closures led to an unprecedented need for parents to become active participants in their children's day-to-day schooling. In this paper we report findings of a remote diary study that captured 109 diverse families' experiences during the first wave of U.S. closures with the goal of understanding the ways in which families were adapting to remote learning. We address three main questions: (1) What learning partner roles did parents assume when schools transitioned to remote teaching and did they vary by family income level?; (2) How did these learning arrangements help families address the unique challenges they faced? and (3) Were there unexpected benefits? Our findings show how parents took on new roles by listening in on instruction, supervising learning, providing technical support, brokering connections, and collaborating. Benefits included new insights about what and how their children were learning.

Key terms: COVID-19, remote methods, families, diary studies, learning partners

Introduction

The pandemic-driven school closures have dramatically blurred the boundaries between homes and classrooms. Although buildings were shuttered, most districts expected school to continue during the academic year and provided varied sources of support for academic learning and school community during this time. Parents and other adult caregivers at home took on new roles as facilitators of remote learning as they simultaneously adapted to new arrangements for work and strategized to protect their families' health and wellbeing. Experiences differed dramatically with more challenges faced by families who had fewer financial resources, lacked broadband access, and/or had greater demands for work outside of the home (Pew Research Center, 2020). What we know less about is *how* families reorganized to capitalize on what schools were able to provide as well as their own resources.

In order to advance our capacity to support remote learning in the future, we need to understand how parent and child interests and funds of knowledge serve as assets and sources of resilience during the adaptation to remote learning, as well as how interruptions to work and school routines may disrupt the capacity to leverage them. The unique configurations of demands on families and the resources schools were able to provide, make it evident that adaptation processes and outcomes will be highly situated. If we are to understand and define resilience-building practices in ways that can set the stage for innovation, theoretically and methodologically varied approaches will be needed to surface learning practices that emerge within particular family-school ensembles and capture trends across families.

In this paper we report select findings from a remote diary study that captured a diverse set of families' experiences during the first wave of U.S. school closures in the Spring of 2020 with the goal of understanding the impact of the Covid-19 pandemic on family life and the ways in which families were adapting to remote learning. We consider the questions: (1) What learning partner roles did parents take on when schools transitioned to remote teaching and did they vary by family income level? (2) How did these learning arrangements manifest for particular families to address the unique challenges they faced? and (3) Were there unexpected benefits? To answer these questions, we analyze responses from parents and other adult caregivers to a series of daily prompts about remote learning at home over the course of approximately two weeks. We present quantitative and qualitative summaries of the types of learning support roles and benefits that were identified across all participants and share two family case portraits that showcase how adults at home supported engagement and learning by extending school assignments, brokering access to resources, and creating and collaborating on projects.

Theoretical background

To frame our inquiry, we draw on ecological and sociocultural perspectives of development. This view foregrounds learning as a cultural process that builds on prior practices and routines but that is characterized by innovation as tools and needs change (Marin & Bang, 2018; Moll et al., 1992). Learning is recognized as deeply

social, facilitated by joint attention and mutual engagement with multiple roles for both guides and learners. Finally, learning is viewed as distributed and influenced by activities and resources provided across settings (Nasir et al., 2020). This ecological and sociocultural framing leads to an analytic focus on the ways that both children and caregivers dynamically shape learning activities and social interactions, including ways that learning occurs through “intent participation” (p. 176) by observing and listening in on ongoing activities (Rogoff, 2003). Parents’ funds of knowledge, grounded in their own expertise and valued activities, help to shape activities as do children’s interests and preferences. Ethnographic studies of family learning find that routine activities such as cooking, going on family outings, and connecting to nature provide opportunities to engage in math and science, even though many learners might not connect these to academic domains (Goldman & Booker, 2009; Zimmerman & Bell, 2014). The expression of parents’ funds of knowledge is particularly important to understand now as they take on new roles in supporting their child’s social, emotional and academic learning and as they develop novel insights through the process. Accordingly, we focus on how caregivers worked to coordinate, tailor and extend opportunities during this time and begin to describe some of the benefits that resulted. We build on prior research that identified unique parent roles as brokers, collaborators, and guides through varied forms of joint media engagement (Barron et al., 2009; Takeuchi & Stevens, 2010).

Methods

Ethnographic research with families has been a key feature of the literature on family learning and parent roles in supporting children’s learning. However, Covid-19 challenged the field to quickly respond at scale to understand the changes that families were experiencing within the constraints of public health orders. In order to document the impact of the pandemic on families as it unfolded, our team chose to conduct a remote diary study with a socioeconomically diverse sample of families around the U.S. Diary studies are a form of experience sampling (Csikszentmihalyi & Larson, 1984) that allows researchers to systematically collect participant reflections on moments in their lives as those moments occur. In previous work, our team tested the method employed in this study for investigating how digital resources are used for learning at home (Barron et al., 2020) and demonstrated its utility for documenting learning moments happening in homes around the country.

Starting in May of 2020, several weeks after schools began closing, we collected daily documentation from 109 families across the U.S., with children aged 5-10 using dscout, a smartphone-based remote qualitative research platform. dscout maintains a panel of over 100,000 participants around the U.S. who are roughly representative of the smartphone owning population. dscout allowed our research team to interact with families and collect rich qualitative data without face-to-face contact, affording broader geographic reach and pandemic-safe practices. The approach also has affordances for participants, including freedom of movement while working through parts of the study and uploading videos and pictures in real time. The ease of submission ensures greater accessibility; a busy parent, for example, can snap a quick picture of their child doing an activity and upload it while also making dinner. Videos taken at home with background noise from children and pets provide rich context previously reserved for expensive and potentially intrusive home visits.

A total of 1,375 people from dscout’s participant panel expressed interest in participating by completing an initial screener questionnaire, which included IRB consent to participate in research; 264 respondents fit our study criteria: (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. These 264 applicants were sorted into three household income groups: \$0-49K (15%), \$50-99K (44%), \$100K+ (41%). Thirty-seven initial participants were randomly selected from each group. In total, 109 participants from 28 states completed the study. Most (67%) were female and 55% self-identified as white, 16% as Black, and 15% as Latinx, 9% as Asian, and 4% as Middle Eastern or North African. While most participants were parents, some were other adult caregivers in the homes of children (for example, adult siblings, grandparents, live-in partners of a biological parent).

Data collection was organized in five parts that participants completed over the course of two weeks (Table 1); each part included multiple-choice survey items, open-ended text responses, image uploads, and video prompts. Part 3 (learning diary entries) asked participants to capture one learning moment per day for six days. Participants submitted 668 diary entries that each focused on a single learning moment. Our team used a mixed-methods approach to explore the data, including descriptive quantitative summaries; coding open-ended text responses and video transcripts across cases to capture variation in themes using inductive and deductive approaches (Saldaña, 2013); and developing case portraits to help theorize parent-identified examples of learning collected in the diary entries.

Table 1. Data collection components organized in dscout

Component	Topics covered
Application	Demographics; school closing status; remote learning challenges; IRB consent for research
Part 1	Pre-pandemic home and school academic access and support
Part 2	During-pandemic learning resources provided by schools; how parents were supplementing and supporting learning (based on earlier work on parent learning partner roles, Barron et al., 2009)
Part 3	Six unique entries (one per day), each including: photo and verbal description of a learning moment; identification of activity origin and content; ratings of enjoyment and learning
Part 4	How families were learning about Covid-19; examples of questions children were asking and reflection about a conversation they had with their child about the pandemic
Part 5	Reflection on possible benefits of remote learning and insights about what and how their child learned; evaluation of how well child kept up and how caregivers adapted to remote learning

Findings

RQ1: What learning partner roles did parents take on during remote learning?

Participants were asked to indicate if they had “arranged any learning situations for their child while they were out of school due to the pandemic,” from a list of items (Table 2) adapted from earlier work (Barron et al, 2009). The majority of parents collaborated with their children on projects and brokered new learning opportunities for them by seeking out online activities. Although many considered themselves to be playing the role of a direct teacher, over a third also reported learning from their child as they navigated learning at home together.

Table 2. Parent learning partner roles

	N participants	%
Collaborating and co-learning		
Collaborated on projects with my child	65	59.6%
Learned something from my child	42	38.5%
Guiding academic work		
Acted as a classroom teacher	50	45.9%
Acted as a project manager to help them manage time/work	32	29.4%
Providing resources		
Used reading materials I had around to support my child's learning	49	45.0%
Bought my child extra books, videos, computing devices to supplement	43	39.4%
Brokering opportunities		
Looked for activities my child can do online	68	62.4%
Signed my child up for an online educational program/website	28	25.7%
Coordinating connections to learning partners		
Asked a family member or friend to help/tutor my child online	10	9.2%
Hired an online educator for other subject areas (music, art, other)	3	2.8%

We compared learning partner responses from three household income groups (lower = \$0-49K, middle = \$50-99K, and higher = \$100K+). Parents and other caregivers reported an average of 4.7 learning partner roles (SE = 0.245) reflecting the diversity and breadth of ways that they were supporting learning. This was not significantly different across home income groups suggesting that despite differences in financial resources all caregivers were finding ways to enhance learning opportunities, complementing what teachers could provide.

Qualitative descriptions of the learning moments shared in the daily diary entries through video reflections allowed us to broaden our understanding of the ways in which caregivers were playing the roles they selected in the checklist. For this paper, we share five roles evident in the ways parents supported their children’s learning while school buildings were closed. *Collaborating*, *guiding work*, and *brokering opportunities* are examples of roles apparent in earlier research (Barron et al., 2009) but manifested in slightly different ways during

remote learning. *Listening in* and *providing technical assistance* are examples of distinct roles that emerged from this data. Examples are drawn from transcripts of caregiver provided diary entry video submissions describing the learning activity, what was being learned, and who was involved.

Collaborating

Some diary entries described caregivers working and learning together with the child. These collaborative moments spanned different activity types, including family-initiated projects, classroom-generated work, deep learning discussions, and reading a novel together. Importantly, in these moments identified as collaborating, both parents and children are engaged in a shared learning experience as opposed to a child asking for help or a parent instructing them. One example is Lucy's description of a generative open-ended science discussion with her kids that unfolded over the course of an outside walk.

...we went on a puddle walk and we talked about all the different things we saw. We talked about things that floated in the water, the different worms that were coming up. ...one of those unexpected learning moments where we got to incorporate the fun things and activities and going out into the world and getting some exercise with some learning and talking about just nature and how water- we talked about the water cycle and where rain comes from and what all the clouds were up there for and all those sorts of things while on our puddle walk. (Lucy G)

Guiding academic work

Caregivers often talked about moments during which they were helping their children with schoolwork. Sometimes they directly taught required concepts and skills, while other times they operated in a more supervisory capacity. As supervisors, they helped read and interpret assignment instructions, double-checked their child's work, and helped with time and task management, including ensuring that assignments were completed and online classes were actively attended. For example, Agnes was at the ready to ensure that her Kindergarten daughter was successful achieving the day's academic expectations:

...this packet was the math packet and she was doing the tens and ones learning that and actually she knows it pretty well so there was very very little that I need to do. But I was there just in case she did have any questions and then also [to] check her work to make sure that she did it correctly... (Agnes W)

Brokering opportunities

Caregivers frequently play key roles in enabling their child to access learning experiences, such as signing them up for science camp. During remote learning, these brokering moments were identified at a more immediate scale. Caregivers connected their child to activities or learning resources from day to day, based on their child's expressed or observed interests and also specifically to extend or supplement learning activities that originated from school. In this example, Pranav noticed a particularly fun engineering activity her Kindergarten son did during virtual class and encouraged him to continue it in different directions after the class was over.

So, the teacher gave them the activity, so my kid was creating that cube [using sticks and marshmallows] and, and other kids were creating the cube as well on the Zoom. ... And he really enjoyed this activity and competing with his friends on Zoom, and he was proud to show his teacher. ... And we made him, you know, make some other shapes as well after the class, little rectangles and triangles. (Pranav R)

Providing technical assistance

In talking through a learning activity, caregivers sometimes described how they helped with technology requirements. One way was to troubleshoot technology issues as they came up for the child (e.g., resetting routers to address connectivity issues, finding passwords to log their child into an online learning platform, and tracking assignments on learning management systems). This role also covered parents designing technical workflows to enable the submission of assignments or the coordination of novel technology scenarios to support learning. For example, Arielle reported needing to facilitate her fourth-grade daughter's access to assignments:

The other challenging part is the fact that a lot of the teachers did not send home their textbooks. So, everything is being scanned and given to them through Google Classroom. So that's been

another problem and what we've been doing is printing them out for them and then I just re-scanned them into the computer to email them to their teachers. (Arielle K)

Listening in

During moments identified as listening in, the caregivers actively observed their child participating in a virtual class or meeting, often listening in from a distance. This type of activity is a common form of human learning in informal settings (Rogoff, 2003). Moments of listening in on virtual instruction were frequently paired with reflections about teacher-child interactions and child engagement, which sometimes prompted associated ideas for further support. For example, through listening in and observing a classroom session over Zoom, Cara admired the teacher's use of familiar tangible referents to teach fractions, particularly noting her daughters' focus, enjoyment, and understanding of the content. This gave Cara new ideas, and in her following diary entry, she extended a play activity with her first-grade daughter to partition shapes using Play-doh.

And her teacher was really doing a good job in explaining to them how fractions and partition works by showing just practical examples and practical objects like, a piece of cake or a piece of pizza. So the kids will understand it very easily and without complication. ... I really thought that this session was so meaningful knowing my daughter's least favorite subject is Math, she looks so focused and was having fun. It gives me ideas too of how to deal with her when it comes to teaching Math. (Cara P)

RQ2: How did learning arrangements manifest for particular families?

While the quantitative indicators show that all families, regardless of income, took on a breadth of new roles as learning partners during this time of remote instruction due to Covid-19, the integrated case portraits summarize learning across diary entries and illustrate in more depth *how* they sustained their child's engagement in learning. They also contextualize the unique situations they faced and begin to help us understand how new roles and new views led to new insights and ideas. The following two cases differ in the age of their focal child (at the older and younger spectrums of our age range) and household income (higher and lower) but both reveal unique strategies, challenges, and benefits in their stories of learning moments. Table 3 shows a summary of participant-reported data for the two caregiver cases and narrative portraits follow.

Table 3. Summaries of demographic data and responses to roles and benefits as reported by case participants

Participant	Jade	Astrid
Relationship to child	Grandmother	Mother
Child gender, grade, age	5th grade male (11 years old)	Kindergarten male (6 years old)
Home income	Lower (25-49K)	Higher (125-149K)
Highest education level	High school	Post graduate work
Employment status	Part time cashier	Full time work in field of education
Roles identified in the questionnaire (Table 2)	<ul style="list-style-type: none"> Provided reading materials in the house Purchased new learning materials Found online learning opportunities Collaborated with child Signed child up for online program 	<ul style="list-style-type: none"> Provided reading materials in the house Purchased new learning materials Found online learning opportunities Collaborated with child Learned something from child Acted as a project manager

Jade and Henry: Crafting projects, providing materials, and collaborating to learn

Jade was her fifth-grade grandson Henry's primary caregiver and was deeply involved with his learning during the pandemic. Henry has a documented learning disability and receives extra support from a resource teacher, but Jade's advocacy was important for helping him continue to progress during distance learning. At the start of the pandemic, the school worked to get connected remotely but were slow to provide clear plans and learning objectives that would meet Henry's needs. In response, Jade *listened in* on Henry's classes, occasionally stepping in to *supervise* and *broker activities* as needed to make sure that he had appropriate assignments and support. For instance, in math class Jade noticed that the concepts the teacher was covering were more advanced than the

content Henry was working on, and she supported him to leave the meeting and work on math using Zearn or listen to a book from Epic's digital library. Listening in on virtual classes also gave Jade a view into challenges with peer interaction. On one occasion Jade noticed that he was being excluded during a group project, so she intervened with the teacher to allow Henry to work on his own. Connecting with Henry's resource teacher proved to be a recurring struggle because of the teacher's inconsistent Wi-Fi connection and schedule, forcing Jade to become a *technical assistant* for Henry as she monitored her phone for updated schedules and Zoom links. In addition to advocating for Henry's needs and adapting instruction in the moment, Jade *collaborated* with Henry on assignments, such as making a video of them cooking dinner for an assignment, and extending his learning through projects and connecting him to resources. She noticed Henry's interest in a historical fiction show, PBS' "Liberty Kids," originally assigned by his teacher, found the whole series on Hulu, and let Henry watch it in the morning while he played with Legos to improve his hand-eye coordination. For fun, Jade taught Henry how to sprout a carrot from a top, supporting conversations about how roots grow, photosynthesis and how to observe changes over time. Henry was able to share this project with his classmates during an online show and tell session.

Overall, distance learning proved both challenging and rewarding for Jade and Henry. Although Jade frequently expressed frustration in her entries about a range of struggles related to advocating for Henry's needs, she and Henry were able to share moments of excitement and have fun learning together. Having access to personalized instruction platforms enabled Jade to supplement Henry's learning, and she believed that these systems directly led to her grandson's reading and math levels moving forward one year. Additionally, by listening in to Henry's online sessions and observing how well he did when working at his own pace, she developed a more nuanced understanding of his strengths and challenges. In her final reflection she shared her plans to "work hard and be diligent on knowing exactly what he is studying in school to move him forward when he needs to be moved forward," articulating the value of her new role as a learning partner and advocate both in the current moment and in the future.

Astrid and Arlo: Leveraging technology to connect with family and support collaboration

Astrid was minimally involved with her kindergarten son Arlo's schoolwork. Arlo was already reading at a first-grade level and was bored by math worksheets that were too easy for him, which made it hard for Astrid and her husband to keep Arlo engaged with assignments. *Listening in* on class and *supervising* Arlo's work gave Astrid a new perspective on his behavior in class. She reflected, "I understand more why he might talk so much in class... he's bored!! I didn't really know..." Outside of class, Astrid noticed and documented more independent learning—Arlo is an avid reader, which Astrid described in an entry she submitted showing a picture of Arlo sitting in bed with his tablet. She explained that Epic was "like going to a library" for Arlo and that she "got an email from the app that said that he read 17 books yesterday [...] everything from UFOs to some stories about bears." Arlo's access to Epic was going to continue through the summer and Astrid planned to continue encouraging Arlo's use of the app because she saw how easy it was for Arlo to choose books that interested him and further his reading skills. In her final reflection Astrid noted that she and her husband were typically not involved in Arlo's schoolwork and that she appreciated this opportunity to be more involved in his learning. Despite the frustrations of too many apps, too many scheduling challenges, and too much to manage, she valued her new insights about his need to be challenged, made possible by the unique opportunity to sit in during online class sessions.

Overall, Astrid was more concerned about Arlo's social and emotional well-being than his academics. Daily Zoom classes offered some social interaction, but because Arlo was an only child, he and his parents created other opportunities to connect with family remotely and share learning experiences. Video chat access enabled Arlo to read to his three-year old twin cousins and collaborate with his grandfather on a STEM learning project. Astrid *brokered these activities* by being a *technical assistant* and resource provider. It was Arlo's idea to read to his cousins, and he modeled his reading performances for them based on Story Time Online, a site where famous authors read books aloud, reading the text and then showing the pictures in the book to his cousins. Arlo also chose the activity that he wanted to do with his grandfather, creating a balance scale, and Astrid assisted with the digital workflow by taking pictures of the pages of the book and sending them to her father ahead of time. Astrid and her husband were working while Arlo was online with his grandfather, *listening in* but otherwise not involved. She described how, "my kid led the process. My dad followed along and then once they built the scale they measured a bunch of different stuff [...] It was really neat actually just [to] see them working together and it was [...] something that we really hope that we can try to do again."

RQ3: Were there unexpected benefits?

Encouragingly, there were a number of benefits participants reported from partnering with their child during remote learning, including new knowledge and social learning networks (Table 4). Over three quarters of

caregivers appreciated the unique opportunity to know more about their child’s learning and over one third felt more connected to their child’s academic environment, regardless of income.

Table 4. Reported beneficial situations related to teaching and learning at home

	N	%
I am more aware of what and how my child is learning than usual	84	77.8%
I am more connected with my child’s school/teacher than usual	44	40.7%
Child teaches other family members	22	20.4%
Relatives and/or family friends are helping my child learn	17	15.7%

On the checklist, both Jade and Astrid reported being more aware of their child’s learning, and Astrid additionally reported being more connected to Arlo’s school/teacher and that other relatives were involved in his learning. The intersection of parent roles and perceived benefits is clear in both case portraits. Jade listening in on her grandson’s class work prepared her to advocate for modifications to better fit his learning style. Her communication with the teacher shifted instructional strategies. Through the unique vantage point of listening in, Astrid gained insights about her son’s need for more challenging activities which encouraged the family to embrace personalized content selection through digital libraries. Her coordination of new opportunities for her son connected him to bidirectional learning and collaboration with his grandfather and younger cousins.

Discussion

Our intent was to understand how an economically diverse set of families adapted to the first wave of school closures, the troubles they encountered, and the solutions they generated in real time. In the analyses reported in this paper, we found that caregivers across income groups supported distance learning by collaborating, guiding academic lessons, brokering access to additional resources and coordinating connections to additional partners. We also found parents taking on both new roles and existing roles with variations.

As exemplified in the case portraits, we found that when parents took on responsibilities as co-teachers, collaborators, brokers, and coordinators, they had novel opportunities to observe their child as a learner, expanding their opportunities to informally assess their child’s social, emotional, and academic needs and in response design learning arrangements that addressed them. The learning diary data analyses also point to ways that access to technology is only part of ensuring equity of learning opportunities online; unequal access to synchronous classroom experiences may introduce new learning opportunity gaps (Pozos, et al. 2021). For example, when caregivers were able to listen in on synchronous lessons held on video conferences, they generated new insights about what was working for their child or not. These views offered the occasion to draw on teachers’ practices to design and tailor their own learning arrangements or to craft alternative learning opportunities to make up for the challenges presented by remote teaching. Listening in during synchronous sessions also allowed caregivers a chance to notice social and emotional aspects of learning remotely, including children’s strategies to make themselves comfortable, challenges and benefits of peer interactions, and struggles to focus and pay attention. In the short term, these insights were used to tailor learning activities. In the longer term, some caregivers were positioned to serve as more knowledgeable advocates for their child, a benefit that could lead to consequential outcomes over extended learning pathways (Nasir et al., 2020). Caregivers’ experience with technology may also contribute advantages. For example, taking on responsibility as a technical assistant may be easier for those parents who are more fluent with technology (such as those who are themselves using Zoom for their work meetings) and have access to experience with various devices and the devices themselves. These examples of the intertwining of the technical and social aspects of remote learning are consistent with evolving conceptualizations of digital divides as multidimensional, overlapping, and intersectional (Van Deursen & Van Dijk, 2019).

Future directions

As researchers, caregivers, and educators move forward to improve remote learning, novel forms of collaboration and interdisciplinary approaches to knowledge creation will be needed that address the social and technical aspects of equitable learning. Our preliminary findings suggest several directions for use-inspired design and research to help meet the needs of children, caregivers, and the educators who serve them. In particular, these findings reflect the potential for design-based research to identify ways to catalyze new forms of parent/teacher collaboration organized to share insights about learning. Although unintentional, some teachers are implicitly providing caregivers with opportunities to learn about their child as a learner and about their classroom experiences. This

insight might be leveraged in future designs that aim to strengthen the distributed teacher-family learning team. It is also clear that teachers have much to learn from the educators at home. Caregiver observations documented in the diary entries showed that they were attending to their child's feelings, their interests, and their understanding of content, providing crucial formative assessment data that most teachers are currently lacking and missing terribly (Darling-Hammond et al., 2020; Reich et al., 2020). The affective dimensions of learning moments are greatly in need of attention, and future work may productively focus on the practices and collaborative conditions that support resiliency as reflected by closer caregiver-teacher communication and mutual support of learners' interest, curiosity, joy and sustained engagement.

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