ACCESS AND ENGAGEMENT III

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Reflecting on the Impacts of the COVID-19 Pandemic on the Education of Children Who Are Blind or Have Low Vision

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Access and Engagement

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INTRODUCTION

The third and final *Access and Engagement study* was conducted in the summer and fall of 2021 as a follow up to two prior studies conducted earlier in the COVID-19 pandemic. The first, *Access and Engagement* I [1], gathered survey data from families and educators of children who are blind or have low vision in the United States and Canada in April and May 2020. This initial study investigated the impacts of the rapid transition from in-person to remote learning. The second study, *Access and Engagement II* [2], gathered survey data from a similar sample in November 2020, documenting the experiences of children, families, and educators across a patchwork of differing educational delivery models.

The final study in the series, *Access and Engagement III,* adds to the earlier findings and continues the story as schools gradually returned to in-person teaching. In addition to survey data from educators, the current study features qualitative findings, obtained through focus groups and interviews, in which participants shared their personal accounts of the challenges they faced, their successes, and their reflections on the potential long-term impacts of the pandemic. These findings supplement the findings of our earlier surveys and point to both systemic and COVID-specific issues limiting the educational success of children who are blind or have low vision. Additionally, the third *Access and Engagement* study highlights perspectives that were not specifically included in the first two studies—information shared by administrators of schools for the blind, families of children with multiple disabilities, and Spanish-speaking families of children who are blind or have low vision.

DESCRIPTION OF PARTICIPANTS

The third study included three groups of participants:

1. Family members of children who are blind or have low vision:
    Twenty English-speaking and five Spanish-speaking parents of children who are blind or have low vision participated in interviews and focus groups, and an additional 10 Spanish-speaking parents responded to a survey. The Spanish-speaking participants were recruited through targeted outreach on social media and through local Latinx blindness community leaders. Spanish-speaking participants completed surveys and interviews in Spanish, and a bilingual researcher translated the interview transcripts and survey responses into English. Demographic details are included in Table 1.

2. Educators: One hundred thirty-four educators who served at least one student who is blind or has low vision in the 2020-2021 school year responded to a survey, and 11 teachers of students with visual impairments (TVIs) who served students during the 2020-2021 school year participated in focus groups. Details on the professional breakdown of the educators are included in Table 2.

3. School administrators: Six administrators of schools for the blind and three state vision services consultants participated in focus groups and interviews. These individuals represented districts across the country, serving a range of urban, suburban, and rural areas.

The findings from the *Access and Engagement III* study provide a more complete picture of education for students who are blind or have low vision over the course of the COVID-19 pandemic and their return to in-person learning. In particular, the *Access and Engagement III* study focuses on three areas of concern that emerged during the pandemic from the previous studies: access to technology and its challenges, the impacts on learning progress, and the impacts on the social-emotional well-being of children who are blind or have low vision, their families, and educators. Additionally, this study includes in-depth qualitative findings from populations uniquely impacted by the pandemic, especially families of children with significant additional disabilities and families whose primary language is Spanish.

Study responses point not only to the unique challenges caused by the pandemic but also to longer-standing problems and inequities that were underscored during the pandemic. These must be addressed as schools and communities move into the "new normal" as the pandemic subsides. At the same time, some families and educators identified some positive outcomes and benefits for the learning progress of students during the pandemic. While it is clear that the pandemic will have lasting impacts on students, families, and educators, it has also provided important lessons that can guide the future education of students who are blind or have low vision, including those with additional disabilities and deafblindness.
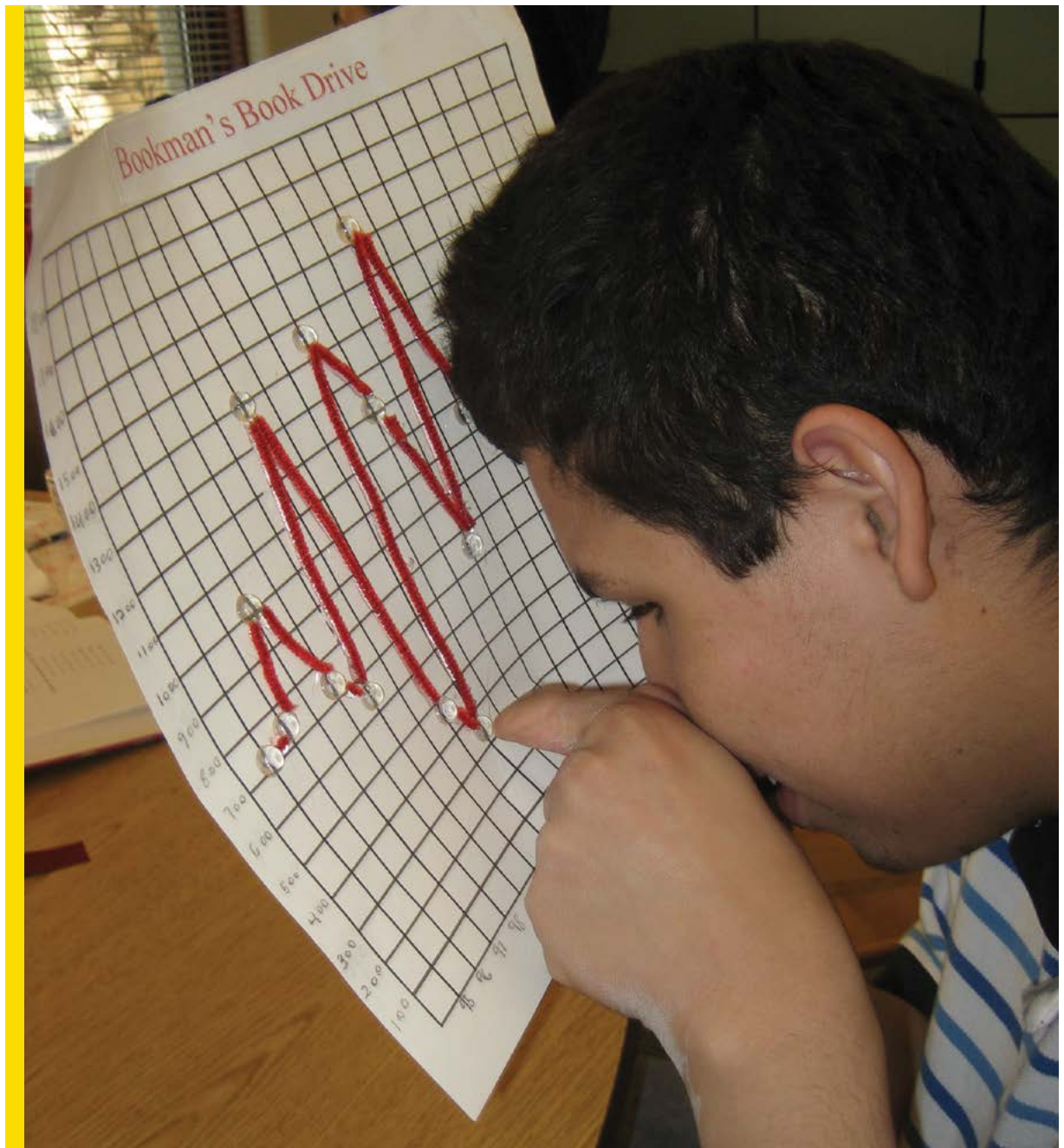
ACCESS TO TECHNOLOGY AND ITS CHALLENGES

In March of 2020, students and educators were required to switch from traditional in-person instruction to remote instruction very quickly. They needed to adopt and use new digital learning platforms with very little time to prepare for the transition. In fact, 81% of the educators in the first *Access and Engagement* study reported that they were given less than one week to prepare for the switch to remote instruction, and many educators and families described the challenges of learning to use new technology on short notice. These challenges persisted through the 2020-2021 school year. Although there was a great deal of variation in teaching models between states and local school systems, 45% of the educators surveyed reported that they were teaching fully online in August and September of 2020, with another 42% reporting teaching in a hybrid model or a combination of in-person and online instruction. By May and June of 2021, 63% of the educators surveyed were still teaching in a hybrid or blended model, using digital learning platforms to deliver instruction.

In the current study, families and educators described several technology-related challenges that prevented their students from obtaining the same access to instruction as their peers throughout online learning. The most commonly described challenges included inaccessible technology, lack of reliable access to the Internet and devices, and insufficient technology skills.

"I've become an advocate, it's my job to make the world accessible until he can do it himself. I've developed a great deal of anger, I'm just done. The ADA's been law for 30 years and some people don't care."—*English-speaking parent of a 12-year-old who is blind with additional disabilities*

INACCESSIBLE TECHNOLOGY

During the pandemic, the students represented in our studies were often required to use multiple digital applications to access instruction and to complete assignments and assessments. For example, a student may need to use one or more videoconferencing application to meet with their teachers virtually in addition to specialized Learning Management Systems for reviewing, completing, and submitting assignments. In the second *Access and Engagement* study in November 2020, family members of school-aged children reported that their children had to use an average of 4.90 different digital tools to participate in hybrid or fully online learning. They reported that, on average, 2.69 of those tools were inaccessible to the child. Examples of specific accessibility challenges included:

• Programs that must be controlled by a mouse rather than a keyboard.

• Videos and pictures without text descriptions.

• Timed quizzes or games that move too quickly for the student to keep up with, preventing the student from seeing the screen.

• Devices, like Chromebooks, with screens that are too small for someone with low vision to read.

• Some programs that are accessible but not usable by all students, such as those with fine motor or cognitive disabilities.

In the current study, family members shared in detail the toll that inaccessible technology took on them and their children. Several family members described needing to sit with children through their entire school day or while completing homework because the children could not independently access the software. In other cases, children and their families chose to return to in-person education sooner than they would like because the children could not access remote instruction. Children reportedly experienced frustration and discouragement because they had lost the ability to access instruction on their own. Some children could not access technology features that were intended to promote social connection, such as chat or digital games, leading to feelings of exclusion. Representative quotes included the following:

"It has been an exciting nightmare…We did remote for both kids [one sighted child and one blind child], but our school district picked Canvas and it's not accessible. We ended up doing hybrid for my [blind] son, I called an IEP meeting to say it wasn't working. He came in each morning and did O&M. It was frustrating that I couldn't protect my kids [from COVID] the way others could because of accessibility."—*English-speaking parent of a 12-year-old who is blind with additional disabilities*

"They had little games that were timed, and he wasn't on time at all. He wasn't even in the ballpark, wasn't on the planet…Couple times he cried in frustration not realizing his camera was on…It was that kind of stress."—*English-speaking parent of a 13-year-old who is blind*

Additionally, a family with blind parents reported that they did not have the access they needed to support their young children with digital learning. The parent interviewed said:

"After schools closed…we got a packet from the classroom teacher with attached image files that were not accessible. There was no plan. We finally did get the TVI looped in, but it was honestly a cascade of awful. They said everything was optional, but optional implies we had the option to do these things, but we couldn't access them, and neither could [our daughter]."—*English-speaking parent of a 5-year-old with low vision and additional disabilities and a 3-year-old with low vision*

Educators also described the challenges of adapting digital assignments to make them accessible for their students. One TVI shared: "All the students got the smallest size Chromebook possible. I was requesting a lot of extra equipment for my students because the Chromebook wasn't accessible…. Last spring break when COVID hit, the district did a great job getting the kids equipment right away. But when they purchased for 2020–2021, the VI kids weren't thought about. Once we could justify, they were great. It took way too long because everyone was ordering tech at the same time." Another TVI added: "Software platforms are really inaccessible. They were made for university students. Super irritating. They should be way more accessible and a universal requirement for a school district to only purchase accessible software. Makes it so much harder for my kids to access the content."

Both family members and educators emphasized the need to be creative and flexible in order to adapt to the limitations of educational technology and to make visually presented content accessible to students who are blind or have low vision. While the challenge of making visual content accessible was present before the pandemic, educators faced new challenges when they could not physically hand a tactile model to a student, for example. Some participants described using items around the house, yard, or neighborhood to give students hands-on experience with concepts that were presented as pictures to the rest of the class. While these efforts are admirable, accessible and usable digital learning platforms would reduce the need to develop workarounds.

LACK OF RELIABLE ACCESS TO THE INTERNET AND DEVICES

"We have very poor connectivity in parts of the state. And, as a result, when we had to jump and do only virtual visits, many of our families just said, 'Never mind, I'm just going to take a break till COVID's over,' thinking it would be over very quickly. And then they got out of the practice of having intervention. And I just think it's something that we're going to be learning from for years to come because of these children who had services interrupted."—*Administrator of a school for the blind*

During the first and second *Access and Engagement* studies, educators consistently reported that a subset of their students were unreachable, had dropped out of remote instruction, or were on the low end of the "digital divide," meaning that they did not have reliable access to the Internet, to devices, or to sufficient Internet bandwidth. During the first *Access and Engagement* study, about half of the educators reported that they could not reach at least one of their students early in the pandemic. By the second *Access and Engagement* study in November 2020, 42% of the educators reported being unable to reach at least 10% of their students, and 56% reported serving at least one student who was on the low end of the digital divide.

During the current study, 75% of the educators surveyed reported having at least one student on the low end of the digital divide, while 30% reported that at least 25% of their students were on the low end of the digital divide. Furthermore, when asked to describe the three most commonly encountered technology challenges over the course of the pandemic, 43% of educators reported issues related to lack of reliable Internet or Wi-Fi access as one of the most challenging issues they or their students faced. This lack of access led to inequitable service delivery, with students who had reliable Internet access receiving higher-quality, more interactive instruction than students without adequate Internet access. As one TVI explained: "For families with difficulty accessing wifi, their sessions are frequently interrupted with tech issues, whereas other families have a smoother, more robust session because the conversation is easily maintained. For some families, it is difficult for me to see the child (due to limited bandwidth for video) and so I can't offer as many suggestions." An O&M specialist added: "My students cannot participate in online learning with their classmates; they are completing packets at home without social interaction with peers." A parent shared the impact of unstable Internet access on her family: "[Child] started off using his cellphone because our internet connection was very slow, especially when it was cloudy. The signal was weak. He used his phone, and then he used a laptop, but when there were connectivity issues, he had to use a cellphone." [Spanish-speaking parent of an 11-year-old who is blind]

Another issue concerned lack of access to hardware devices. Many school districts provided devices and hotspots to students, but the devices were not always accessible. Chromebooks, for example, were frequently provided by schools, but their screens were small, difficult to enlarge, and incompatible with many screen readers. A TVI explained: "The digital divide has grown even greater for our students. The district wants to 'solve' all tech problems with Chromebooks, but this is not a one size fits all. Additionally, my district is focusing on more online testing…but some of these high-stakes tests are only accessible with a braille display and third-party magnification, which is not always possible with a Chromebook. There are issues with ensuring our students get braille notetakers at younger ages instead of waiting until fourth grade, which is really too late compared to peers."

Schools and districts made efforts to accommodate students who did not have reliable access to the Internet or devices, often providing personal hotspots or setting up public areas equipped with Wi-Fi access. Schools for the blind reported giving students accessible hardware, such as iPads, and hotspots to ensure Internet access. These schools often assigned staff who were normally providing in-person services, such as bus drivers and dormitory staff, to transport materials to students' homes, allowing these staff to remain employed during the pandemic. These solutions helped to narrow the digital divide, though it was not eliminated completely. For example, some solutions relied on families to drive students to a public location. Furthermore, even when physical access to the Internet and devices was available, family members and students did not always have the technology skills to access instruction.

INSUFFICIENT TECHNOLOGY SKILLS

"I would wonder why I didn't ever think of telling her teachers, 'We should give her a laptop, we should give her tools or equipment that can help her learn and have the same knowledge about technology as her peers.' My son and daughter are around the same age. They only have a 13-month age difference, and my son uses the computer with ease. My daughter, on the other hand, doesn't because no one took the time to say we should teach her how to use technology during school."—*Spanish-speaking parent of an 8-year-old who is blind*

At the start of the pandemic, students and their families needed to master digital learning platforms very quickly. Students varied widely in the level of exposure to or training with assistive technology they had received prior to the pandemic. Some of the participants in the current study reported experiences of students who had been exposed to specialized devices such as braille notetakers, or to mobile devices, but who had limited proficiency using computers. These students often struggled to access digital learning and required high levels of support from their families and teachers to complete their coursework, or even for basic functions like logging in to a video meeting. Families, educators, and consultants expressed their support for having assistive technology instruction begin at younger ages, and be more intensive, for students who are blind or have low vision. Some representative quotes included the following:

"She has not had a lot of tech training. She was mainly trained on the BrailleSense, which wasn't compatible with Zoom and Google Classroom. She couldn't participate in virtual school unless I was sitting with her maneuvering the computer."—*English-speaking parent of a 16-year-old who is blind with additional disabilities*

"My daughter struggled using the computer because she doesn't have vision and aside from that, she is still very young. She doesn't know how to use the equipment, the technology she [uses] needs to be up-to-date, and [she needs to know how to] use the laptop with [assistive technology]…When she was doing school from home, I would have to sit with her all day."
—*Spanish-speaking parent of an 8-year-old who is blind*

"A 2-year-old can operate an iPhone better than I can on some days. The pandemic reinforced the idea that we have to embrace the tech at a much younger age while preserving high-quality instruction for braille readers. We're already embracing tech for low-vision kids but lagging in early braille instruction."—*State vision consultant*

"So, a lot of students come here [to the school for the blind] in part because they really need to strengthen their technology skills. And so, trying to teach students how to use technology over technology that they didn't know how to use yet, that was really, really tough."
—*Administrator of a school for the blind*

IMPACTS ON LEARNING PROCESS

"I have already mentioned to [child's] school that…instead of graduating at age 22, I want him to graduate at age 23 to make up for this year." *—English-speaking parent of a 14-year-old with low vision and additional disabilities.*

"I think we're always going to be kind of feeling a bit behind, but I think we need to keep reminding ourselves that the students really didn't have any learning loss. They had a loss of opportunity to learn, but what they learned, we found for our students, they retained it pretty well. They just weren't able to keep that momentum going, and that's where the gaps are starting to show up, where they might be a year behind because they just haven't had a full year of opportunity to make those gains."*—Administrator of a school for the blind*

It is clear that the changes to educational delivery necessitated by the pandemic have interfered with effective instruction in several areas. During the first and second *Access and Engagement* studies, educators shared many challenges with effectively teaching certain subjects, particularly parts of the Expanded Core Curriculum (ECC) that must be taught to students who are blind or have low vision. For example, many O&M specialists described the limitations of teaching key O&M concepts, such as cane positioning and accurate street-crossing skills, without being physically present with students. Students' family members, meanwhile, expressed concern about students' educational futures in the midst of the pandemic. In November 2020, 160 family members rated their agreement with the statement, "I am concerned about my child's educational future," an average of 3.10 on a 4-point scale, significantly above the scale midpoint of 2.5, suggesting a moderate-to-high level of concern.

Are family members, educators, and administrators still concerned about the ongoing impacts of the pandemic on students' learning now that schools have largely returned to in-person learning? In the current study, participants were asked, via open-ended interviews, to reflect on how they felt the pandemic impacted students' current and future learning. Responses were mixed. Some families and educators felt that children will need to compensate for the delays caused by remote learning, whereas others felt that children were mostly keeping in step with their educational goals. In some cases, families and educators reported unexpected gains that children experienced as a result of the pandemic, as will be described in a later section of this report.

It is apparent that academic progress did not occur equally during the pandemic. Children who had strong in-home supports, as well as educators with the time and resources to individually support students, reportedly had much more positive learning outcomes than did children with less in-home support, less educator support, and children with multiple disabilities or complex learning needs. Educators described the challenges of delivering instruction to students with less in-home supports, who were sometimes difficult to engage, for example, if they fell asleep during remote lessons. Other educators described the challenges of interacting remotely with students who were attending class from chaotic home settings with minimal supervision.

Finally, the negative impacts of the pandemic were often most pronounced for students in key developmental stages. For example, transition-age students who graduated from high school during the pandemic missed out on opportunities to gain hands-on work-based learning experience or to develop important O&M skills in the community. These students are now out of school and no longer have the opportunity to learn such skills in the school setting. At the other end of the spectrum, young children reportedly missed opportunities to receive hands-on early intervention services and to develop age-appropriate social skills during critical developmental points.

Some representative quotes included:

"His grades dropped. He always receives A's and B's, but this time he was getting C's. His grades dropped because he didn't understand some topics because they [teachers] struggled to explain the concept [during remote learning]."—*Spanish-speaking parent of an 11-year-old who is blind*

"The TVI services were nonexistent. We lobbied the Commission to reopen, called our Congressman and our local assemblyman and the director of blindness education. We were vaccinated. Finally, they opened up in May 2021, but we went 16 months without any services. My little one, earlier this year, didn't know that many new people. Most of her memory had been in a pandemic and she wasn't used to meeting new people."
—*English-speaking parent of a 3-year-old with low vision*

"Our students had to learn how to take turns, learn how to separate from parents, learn how to stay on the right side of the hallway. We really started back at ground zero when the children came back to us last spring. But I will also say in a very positive way, we recognize why we're a team of educators. We miss those children terribly, and we recognized the need that we had to make them feel secure in this crazy time."—*Administrator of a school for the blind*

IMPACTS ON SOCIAL-EMOTIONAL WELL-BEING

"For the first time in I don't know how long, our country has this shared experience that we all can relate to each other about this one great event that impacted all of us. And I think it has…. Personally, here at [school], it's made a lot of our teams stronger, because it's like we all went through this trauma together, but really this shared experience that was the same for everybody but might have impacted them in a different way."
—*Administrator of a school for the blind*

The COVID-19 pandemic impacted the social-emotional health of children, educators, and families. The pandemic triggered enforced social isolation, drastic changes to routines, and anxiety surrounding the threat of the virus and its uncertain future impact. In the current study, 90% of the educators who completed the survey agreed or strongly agreed that the 2020-2021 school year was more emotionally challenging for them than in a typical school year. When asked what percentage of their students experienced social-emotional challenges during the 2020-2021 school year, 47% of the educators who responded indicated that 1%-25% of their students experienced these challenges, and 42% reported that more than 25% of their students experienced these challenges. Long-form qualitative responses provided insight into the most common concerns.

LONELINESS AND ISOLATION

Several family members reported that their children felt isolated during lockdowns, resulting from the physical separation from teachers and peers and after losing access to beloved in-person group activities. One parent shared:

"For [my child] being an only child, [COVID] impacted her socialization and exposure to friends sand peers…. She normally does ice skating, dance, gymnastics but none of that was happening."—*[English-speaking parent of an 11-year-old who is blind with additional disabilities*

Masking also created social challenges for some students with low vision attending in-person instruction, who had trouble deciphering nonverbal feedback such as facial expressions. A parent described:

"Sometimes she'll ask how people feel. I think it's because they use masks and she can't really see and with the masks, she doesn't know if others are happy or not and sometimes, she can't tell people apart. She confuses people. But she's invented her own techniques. She's good at distinguishing voices."—*[Spanish-speaking parent of a 7-year-old with low vision and additional disabilities]*

FEAR OF COVID

Some family members shared that their children developed anxiety or fear of becoming ill, especially if others close to them contracted COVID. Some children were afraid to go out in public because of the virus or became anxious and distressed when they developed symptoms of COVID. For example:

"The news [about COVID] put a sense of fear in [my child], she was nervous about getting sick. She did get sick, but it was not COVID. She was crying because she thought she had COVID, and she was scared but it wasn't." *—English-speaking parent of a 15-year-old who is blind*

"She tried to never mention the word COVID. She would make me laugh because she would just say, 'the virus.'"—*Spanish-speaking parent of an 11-year-old who is blind*

RELUCTANCE TO SOCIALIZE

While some children experienced sadness or loneliness when social interaction was restricted during the pandemic, others reportedly began to prefer to be alone than to seek out social interaction. Though this may have been a positive development for more introverted or socially anxious children, it was sometimes a matter of concern to their families. One parent said:

"My daughter definitely has gotten more comfortable being by herself which concerns me. We did virtual the whole year. I'm looking forward to when she goes back in person and can rebuild friendships. She would decline phone calls because she was comfortable being alone."—*[English-speaking parent of a 19-year-old who is blind with additional disabilities]*

A second parent agreed:

"[Child] chooses to be alone in her room now, and that is really frustrating to me. I am very much an extrovert."—*[English-speaking parent of a 12-year-old who is blind*

STRESS ON FAMILIES

In addition to the social-emotional impacts on students, the pandemic impacted the overall well-being of families in many ways. Family members of children who are blind or have low vision often took on the extra work needed to make educational material accessible to their children and to coordinate instruction. Some family members quit their jobs to support their children. These stresses were compounded by other, more general stresses associated with the pandemic. A TVI explained: "And mostly I think families were just overwhelmed, especially for the multiply impaired kids, they've got all the services, the hearing, the OT, the PT, the vision, speech, the regular teacher

and getting all those Zoom links and everything, families they just couldn't handle it and I totally get that." A state vision consultant echoed this sentiment, adding: "That's when the family and kid go into survival mode. In survival mode they don't learn. It's all about living."

The feelings of being overwhelmed were especially acute for families of children with multiple disabilities and medical conditions. During the first and second *Access and Engagement* studies, educators talked about the unique challenges faced by students with multiple disabilities and their families. To investigate these challenges in greater depth, the current study included family members of several children with multiple disabilities, including two whose children require home healthcare support. These families were especially impacted by the lack of consistent, reliable nursing care and limited availability of therapists to work in person with children. This required family members to take on caregiving roles themselves or needs went unmet. The lack of care providers impacted not only the students' educational outcomes, but also their mental health and that of their families. One parent described:

"We kept trying to get help with nursing, and if we got someone once or twice a week, it was generous. It was hiring students to come in and do therapy…Trying to be therapist and teacher [myself], it was a nightmare."—*[English-speaking parent of a 16-year-old with low vision and additional disabilities]*

The other shared a similar experience:

"At home, we have seen a tremendous amount of hours not covered for nursing care. This month alone [July 2021] started out with 17 nights uncovered…It increased my stress level tremendously because of the lack of assistance."—*English-speaking parent of a 20-year-old with low vision and additional disabilities*

EXPERIENCES OF SPANISH-SPEAKING FAMILIES

"I know that we are in God's hands and that he is there to provide the resources we need. This is why we came [to the U.S.], so [my child] can have other opportunities, and that is how it has been."—*Spanish-speaking parent of an 11-year-old who is blind*

In the current study, we interviewed five parents of children who are blind or have low vision who spoke Spanish at home. Two of these family members also completed the survey, along with an additional ten participants who only completed the survey. The participants resided in Texas, California, Maryland, and Virginia. All reported speaking Spanish at home a majority of the time, and all but one were born outside the United States.

Overall, the Spanish-speaking participants shared experiences and concerns similar to those of the English-speaking participants. They described challenges their children faced with accessing coursework and remaining socially connected during remote learning. The interview participants generally reported high levels of involvement in their children's learning, with two participants quitting their jobs, and a third taking a work-from-home job, so they could support their children during the pandemic. While the participants were generally grateful for school reopenings, on the survey question of whether they were still concerned about their child's educational future in early 2022, seven out of the ten participants responded that they agreed or strongly agreed.

It is important to note that although the five interview participants reported speaking Spanish at home, two described themselves as bilingual and fluent English speakers, and another shared that she could navigate the language. These participants did not have difficulty communicating with their children's teachers, but they believed that other Spanish-speaking individuals who were not bilingual, including members of their communities, were challenged by communications from school staff that were entirely in English. One parent explained:

> "Everything is in English. The emails are in English. All communication with the teacher, unless the teacher is bilingual, [is in English,] but my daughter's teacher wasn't bilingual."—*[Spanish-speaking parent of an 8-year-old who is blind]*

Another parent described the importance of working with a teacher who was bilingual:

> "She [child's primary braille teacher] speaks a little bit of Spanish, about 70, 75 percent Spanish. She's always helped. She never left my side, so she was an interpreter and a teacher…She is the person I lean on. Thanks to God, we have an excellent teacher."—*[Spanish-speaking parent of an 11-year-old who is blind]*

Although the Spanish-speaking parents in this study had relatively little difficulty related to language, they reported some other challenges that were less prevalent in the English-speaking sample. The Spanish-speaking interviewees tended to reside in more rural areas with fewer local resources for their children and reported sometimes driving long distances to obtain materials from their child's school or to take their child to therapies. Another unique challenge is that the schools these students attend may lack the resources to adequately address their needs. One participant reported her child receiving O&M services only once per month in person, from an out-of-state provider, after her school re-opened. Additionally, four of the 12 survey respondents indicated that they do not have computers at home; one interview participant stated that her family used the Internet through a smartphone during the first phase of the pandemic and had frequent bandwidth issues; another interview participant stated her family did not have Internet access until the pandemic started. More research will be needed to better understand the unique impact of the pandemic on rural families, particularly those who primarily speak Spanish.

THE SILVER LININGS OF THE PANDEMIC

"We just finished e-learning, so I feel like we just finished a grand adventure."
—*English-speaking parent of an 8-year-old who is blind*

"I think overall, COVID has been good for us. The time I've had at home with my kids has given me a lot of time to think and learn and decide what's important."
—*English-speaking parent of a 5-year-old and a 3-year-old with low vision*

While the pandemic presented many challenges for students and families, it also brought some unexpected benefits. Family members became more involved in their children's education and more aware of gaps that they needed to address. Some children exhibited less stress, gained new skills, and took time to explore their passions. The pandemic led some families to opt for other school placements for their child, often to a placement that provided more individualized attention for the child.

INCREASED FAMILY INVOLVEMENT

Some family members reported that by joining their children in remote learning, they gained a better understanding of their children's educational needs, challenges, and solutions. Educators, meanwhile, appreciated the increased collaboration with families. Representative quotes included:

"I want to emphasize how nice as a parent it was to see the interactions between [child] and the teachers. Observing how well they worked together. A lot of parents drop kids off and it's out of sight, out of mind. I loved being this fly on the wall, seeing how amazing and creative our teachers at [child's school] were."—*English-speaking parent of a 15-year-old who is blind*

"As hard as the pandemic was, we learned some really valuable lessons, and I am inherently grateful that it happened. The lack of tech training in mainstream tools was a big glaring hole for us that I didn't know was a hole because in person she could successfully complete her work. Until I had to sit with her and see where she was struggling, I didn't know how to advocate well for that."—*English-speaking parent of a 16-year-old who is blind with additional disabilities*

"I think it was a great opportunity for parents to become more actively engaged. That short period of virtual instruction they had to take the reins. I noticed more follow-through later in the year. Parents do want to be involved; we need to be touching base more often even when we're not doing virtual learning. It was a great reminder to keep in contact more frequently with them."—*TVI*

"One of the real positives [of the pandemic] is that a lot of our families who would sit with their child during virtual instruction learned more about their child's visual impairment and the accommodations their child needs."
—*Administrator of a school for the blind*

DECREASED STRESS AND DEMANDS

The pandemic intensified anxiety for some children, but others experienced less stress due to a slower pace of life, fewer demands, and less social pressures. Some children showed academic improvement while learning from home without the distractions inherent in a classroom environment. To compensate for the loss of in-person social activities, some children joined virtual social clubs or gained new relationships with mentors working with them individually. Some representative quotes on this theme included:

"In a weird way I think she benefited socially from remote learning. On Zoom she was speaking up more than she would be in person."—*English-speaking parent of a 15-year-old who is blind*

"The pandemic helped us slow down. It helped me have the opportunity to see in real time how things flowed with school. We've had more time to work on independent living skills; before, the weekdays were too rushed."—*English-speaking parent of a 19-year-old who is blind with additional disabilities*

"When I discussed with him on how he's doing, he's doing really well because he doesn't have the distractions of the classroom with 17–20 kids in a loud classroom."—*English-speaking parent of an 8-year-old who is blind*

DEVELOPMENT OF NEW SKILLS

During remote learning, some students developed their technology and self-advocacy skills as a part of learning to manage new learning systems and coping with access challenges. The reduction in scheduled activities also offered students more time to explore their passions. One parent said:

"I feel like the pandemic has made my children stronger. They have built their tech skills. It's given them time to delve into their interests."—*[English-speaking parent of an 11-year-old and an 8-year-old with low vision and additional disabilities]*

Similarly, a TVI described her student's growth in technology skills:

"We got [student] to connect to the Internet, set up email, just on the phone. Once she was able to connect and communicate by email, it was a game changer for her. One of my goals was getting her ready for middle school. She really took off after she realized hey, I can communicate with everybody on my own!"—*TVI*

OPPORTUNITY TO MODIFY SCHOOL PLACEMENTS

Some families shared that during the pandemic, they decided to modify their children's school placement, such as moving from a public school to a school for the blind or to homeschooling, modifying IEP goals, or increasing specialist service time. This often occurred after families became more aware of the inaccessibility or inadequate accommodations their children were receiving in the public school setting. For example:

"I think overall I can make [older child's] education a priority with homeschool. I saw how quickly my daughter's education dropped to a very low priority for the district when things shut down. When things get hard my kids are going to be among the first whose education gets dropped. Once you know that, it's hard to go back."—*English-speaking parent of a 5-year-old with low vision and additional disabilities and a 3-year-old with low vision*

"I think it's a blessing that [the pandemic] happened because it made us rethink her time with her educators…Now she's getting JAWS training 4 days a week, and I don't think that would have happened if not for the pandemic."—*English-speaking parent of a 16-year-old who is blind with additional disabilities*

"Matter of fact, we had the largest enrollment influx in our Blind Department this past fall. I think a lot of it was because of the struggles the LEAs [Local Education Agencies] had to meet their needs when they were at home. They weren't prepared to have that level of support. So, I think we enrolled over 12 students in our Blind Department in the fall."—*Administrator of a school for the blind*

FINAL THOUGHTS

The COVID-19 pandemic placed a great deal of stress on students, families, educators, and school administrators and required extraordinary flexibility and patience over an extended period of time. Taken together, the three *Access and Engagement* studies have documented some of the unique challenges affecting students who are blind or have low vision. As shown in the current report, students and their families faced challenges related to a lack of full access to educational technology, learning loss during the pandemic, and negative impacts on social-emotional well-being. Some of these challenges highlight systemic issues that were present before the pandemic and will continue to limit the educational success of students who are blind or have low vision. These include the limited accessibility and usability of digital learning tools; inequitable access to the Internet and devices; gaps in technology training; and a shortage of service providers and resources, especially in certain areas of the United States. Many of our study participants also believe that the pandemic's impacts on learning and social-emotional development could have lasting consequences for students, who may need additional time and support to catch up.

Nevertheless, the study participants also demonstrated great resilience and creativity in the face of the pandemic. Some articulated that the pandemic brought unexpected benefits that could carry forward into the future. It is hoped that the pandemic brought important lessons which will guide the future delivery of education to all students who are blind or who have low vision, including those with additional disabilities and deafblindness.

> "I believe the environment a child is in seriously impacts how they cope with situations. It's not allowed to be a factor in our house. We can talk about the positives and the negatives of the pandemic, but life still has to go on."—*English-speaking parent of a 13-year-old who is blind*

> "I love a good challenge, so I felt like hey, this ended up being one of the most creative stages because you have to think outside the box. It was all about finding strategies to develop connection."—*TVI*

RECOMMENDATIONS

The recommendations in this report are limited to the areas investigated in this study and researchers' understanding of participant responses. Most of the recommendations reflect well-established and widely accepted practices that, nonetheless, have not been fully and broadly implemented, as demonstrated in this report.

SCHOOLS AND PROFESSIONALS

- School staff need to be aware of their obligations under the Americans with Disabilities Act, Individuals with Disabilities Education Act (IDEA), and other civil rights laws, including the obligation to make digital tools used in the classroom accessible. With significant turnover in many schools, developing such knowledge should be a priority for personnel who are new to their position.

- Teachers and families alike should strive to create a culture of inclusion and set high expectations for blind and low vision students' access to and achievement in education.

- Procurement and curriculum officials must ensure that the software and web-based platforms and curricula that are used in the classroom are fully accessible to and usable by students who are blind or have low vision. At a minimum, these tools should meet the Web Content Accessibility Guidelines.

- When hardware is purchased, it must be accessible and meet the individualized needs of students. For example, although some students need only a Chromebook, some need laptops with large screens or a powerful enough processor to run their assistive software. School technology procurement professionals should add such systems to a pre-approved list of equipment, making procurement easier and quicker.

- Both general education teachers and teachers of students with disabilities should provide accessible digital classroom environments. Teachers should create accessible slideshows, include image descriptions in documents, use headers, activate captions, and use good contrast, among other practices, to create accessible digital documents. Teachers should implement inclusive speaking practices, such as discouraging chat usage during a video conference and/or setting aside dedicated time to chat when the teacher is not speaking.

- Principals and teachers must ensure that communications to families are fully accessible and that accommodations are made for parents and family members with disabilities, so that they can support their child's education, regardless of whether their child has a disability.

- IEP (Individualized Education Program) and Section 504 plan teams should provide intensive and/or compensatory services to those who may have dropped out of or received less effective early intervention or education services due to broadband access issues or inaccessibility and continue to set ambitious goals for children's education. Even if students have been in the classroom for the last year, teams should continue to review progress towards goals that may have been neglected during remote schooling.

- In an increasingly digital society, IEP and Section 504 plan teams and schools should be proactive in providing assistive technology and computer training at an earlier age. Students who are blind or have low vision should receive early instruction in using technology, especially when sighted children are learning to use computers at an early age, including access to specialized devices like braille notetakers, screen readers, and screen magnification. IEP and Section 504 teams should account for these students' additional technology accommodations and training needs in the early years of their education.

- Schools should be prepared to support children from bilingual families, including providing interpreters, creating communications and materials in the child's home language, investing in bilingual staff, and offering explanations of familial and student rights in the home language.

- Communication and collaboration between educators and families is paramount to ensuring children's success, and in many cases, familial engagement improved during the pandemic. Such communication must continue even after students are no longer attending classes from home. Schools should continue to create opportunities for incorporating familial support and learning, including providing families with additional ways to reinforce skills development in the home.

FEDERAL POLICYMAKERS

- The U.S. Department of Justice and Department of Education should issue regulations and guidance that apply to schools and universities requiring websites and applications used in the school environment to be accessible.

- The Department of Education should further invest in technical assistance and training on procuring accessible educational software and hardware.

• The U.S. Congress should continue to increase annual funding for IDEA and other educational programs to ensure that schools and districts are able to provide additional or intensive services to children who lost quality instruction time during the pandemic, including early intervention and preschool services. Investments in personnel preparation and retention are especially important to address a shortage of professionals.

STATE AND LOCAL ADMINISTRATORS

• School districts should plan to use American Rescue Plan, E-Rate, and Emergency Connectivity Fund Program funds to provide ongoing access to computers, Wi-Fi, and broadband connections. Information about the Affordable Connectivity Program should be made widely available in English, Spanish, and other languages, to support families in acquiring and maintaining stable Internet connections and home computing devices.

• State education agencies should support local educational agencies in conducting additional Child Find efforts for students who have not been seen as often in person. This support could range from funding for additional evaluations to technical assistance and guidance on fast tracking services that unidentified children may have missed during the pandemic. Children with multiple disabilities should be identified by each of their disabilities.

• Administrators should proactively plan for additional resources, including training and funding for personnel, to ensure that students have access to both braille and assistive technology instruction at an early age. Expanding assistive technology instruction should not preclude appropriate access to braille.

• Teachers and administrators need access to professional development opportunities to learn how to make the virtual and in-person classroom accessible, especially in times of transition or crisis, such as pandemics or natural disasters.

• State and local administrators should track changes in placement for students who are blind or have low vision and evaluate which programmatic changes, technical assistance, and resources are needed to ensure that students are receiving a free, appropriate public education (FAPE) in their local public schools. These changes should be implemented as quickly as possible. Additionally, if these students return to their original placement, those schools must be prepared to provide appropriate services that enable students to attain the highest possible achievement levels.

• State vocational rehabilitation administrators should be prepared to conduct outreach to and support youth who may not have received sufficient transition services during the school years affected by the pandemic.

APPENDIX: DATA TABLES

TABLE 1:
Demographics of Families

Race/Ethnicity		
White*	15	43%
Hispanic or Latinx	12	34%
Black or African American	2	6%
Asian	1	3%
Native American	1	3%
Multiracial	1	3%
Declined to Respond	3	10%
School Stage Of Child		
Early Intervention	3	9%
Preschool	3	9%
Elementary	15	43%
Middle/High	14	39%
Children With Additional Disabilities		
Yes	20	57%
No	15	43%

*3 Spanish-speaking participants identified as White

Educator Characteristics

Role	Total n = 145	
TVI*	83	62%
O&M**	10	7%
Both TVI and O&M	24	18%
Special Education Teacher	9	7%
Paraprofessional	8	6%
EI Provider***	7	5%
General Education Teacher	4	3%
Gender		
Cisgender Female/Woman	129	88%
Cisgender Male/Man	8	6%
Gender Not Provided	8	6%
Race/Ethnicity		
Non-Hispanic White	121	84%
Hispanic White	5	3%
Non-Hispanic Black	5	3%
Asian	2	1%
American Indian or Alaska Native	1	1%
Hispanic, Two Or More Races	1	1%
Non-Hispanic, Two Or More Races	4	3%
I Prefer Not To Answer	6	4%

*TVI=teacher of visually impaired

**O&M=orientation and mobility specialist

***EI=early intervention provider

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