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Introduction to Volume 16 Issue 1

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UNDERSTANDING THE IMPACT OF COVID-19 PANDEMIC ON ASSISTIVE TECHNOLOGY SERVICES

As citizens around the world celebrated New Year's Eve on December 31, 2019, few people could imagine how the year would actually unfold as a result of the emergence of the COVID-19 virus. In 2020, the specialized language of public health would enter the vocabulary of the ordinary citizen as they tried to make sense of topics such as coronavirus, pandemic, flattening the curve, asymptomatic, super-spreader events, social distancing, personal protective equipment (PPE), and ventilators (Patella, 2020). In a matter of months, the COVID-19 global pandemic would impact all aspects of society in every country (Burrell, 2021; Chan & Ridley, 2021). Efforts to manage this public health crisis involved government agencies at the national, state, regional, and local levels resulting in disparate policies, recommendations, and practices affecting citizen's daily lives (Christakis, 2020; Hayes, 2020; Tooze, 2021; Wright, 2021).

Within the education sector, the immediate impact of COVID-19 involved closing schools and offices in March 2020, and within a very short time period, transitioning children and adults to remote instruction and remote work. Richard Culatta, Chief Executive Officer of the International Society for Technology in Education described the chaotic pattern that would become common practice across three academic years:

Part of this whiplash that we keep getting is it's like, "Oh, online quick, it's all remote learning." And then, "Whew that's all over, back to normal, back into the classroom, let's not use technology." "Whoops. We're back to remote learning again" (Salman, 2022 paragraph 12).

Whereas the government has monitored the impact of these transitions using metrics such as the positivity rate, economic growth measures, and unemployment rates, reports about the impact of COVID-19 on the well-being of children and adults with disabilities, the demands on the social systems that support them, or the nature of the learning loss are only beginning to emerge (UNICEF, 2022). There is much more to be learned about the short- and long-term impact of COVID-19 on students, families, teachers, and the educational system.

This special issue of ATOB was created to provide a historical record of the impact of the COVID-19 pandemic on the provision of assistive technology services in schools. A call for manuscripts was released in February 2021 and we were fortunate to receive a number of submissions. The timing of this work was auspicious as many authors were able to collect data during the initial days of the pivot from classroom-based instruction to remote learning (March 2020), as well as the start of the new school year when the Delta variant began surging (Fall 2021) and the emergence of the Omicron variant in December 2021 (Center for Disease Control and Prevention, 2021). As we go to press, public health officials and politicians continue to assess and debate the efficacy of vaccines, masking, and the transition from a pandemic "seemingly unending state of emergency" to an endemic "a long, uncomfortable coexistence with SARS-CoV-2" (Powell, 2022, paragraph 5).

AT SERVICES DURING AND AFTER THE COVID-19 PANDEMIC

When designing the Call for Manuscripts for this special issue, the ATOB Editorial Board posed a number of questions: How did students receive new assistive technology devices during the pandemic? How did schools ensure that all digital curricula were accessible for students with disabilities? What role did AT teams play in supporting students and families during periods of remote instruction and engage in needs assessment? What changes were necessary for service delivery systems to be responsive to students, families, and teachers? And finally, what lessons were learned about what AT services might look like in a post-pandemic world? We received many manuscripts and were able to accept the six articles presented in this issue. The following sections provide a brief preview of each article before we conclude with some observations about the future of assistive technology services in schools.

In the first article, *Assistive Technology/Augmentative & Alternative Communication Implementation: School to Home during COVID-19*, authors Corduff, Lee, Rockinson-Szapkiw and Watson report on the results of a mixed methods study involving a national survey designed to understand the processes special educators, schools, and districts used to implement assistive technology (AT) and augmentative and alternative communication (AAC) tools during the pivot from face-to-face (F2F) instruction to virtual

instruction during the COVID-19 pandemic. This work is important as it provides a snapshot of AT/AAC implementation in January - May of 2021. Survey responses were received from 104 special educators and 45 parents. Follow-up interviews were conducted with 17 educators and parent participants. Among the key findings: 46.2% of teachers ($n = 48$) did note that their students used new software or subscriptions; 44.3% teachers reported no - or little to some - support from the school. All parent respondents (100%) reported that their children used AT/AAC for a variety of purposes, including physical, social-emotional-behavioral, communication, and academic/cognitive needs, supporting the high importance placed on access to and use of these technologies. 80% of the parents reported that their child used new AT/AAC hardware for the first time during the pandemic as well as new software and subscriptions (53.3%). Interestingly, there seemed to be a disconnect between how teachers and parents perceived students' familiarity with AT/AAC tools. Parents and teachers differed in their perceptions of actual use, performance expectancy, effort expectancy, social influence, and facilitating conditions associated with incorporating AT/AAC in learning situations during the COVID-19 pandemic. Effect sizes were moderate to large. Both teachers and parents expressed that their experiences with AT/AAC during the pandemic were chaotic because there were no clear rules, policies, and procedures regarding the structure of special education virtual classes with AT/AAC.

Transitions between schools are often challenging for students with disabilities. During the pandemic, Komlmeyer and Edyburn thought there might be heightened concerns regarding AT and student transition because of the circumstances surrounding remote instruction. In their article, *Virtual Parent Education on Assistive Technology: Pandemic Lessons Learned*, they report on the results of a virtual parent education program designed to assist in preparing parents of students with learning disabilities as their child transitioned from one school to another to address the concern that the transition would be seamless regarding the support and use of assistive technologies. Thirty-one parents were recruited from a special school for students with learning disabilities in the Midwest United States. Two modules were developed, AT literacy and AT advocacy, and were delivered via Zoom in 60 to 90-minute sessions. Dependent variables included pre- and post-tests of AT Literacy knowledge and AT Advocacy knowledge, and perceived confidence. Course satisfaction was also assessed. The results indicated statistically significant improvements with strong effect sizes across knowledge gained, perceived confidence, and course satisfaction. Overall, the program was judged to be effective as evidenced by the statistical outcome measures and subjective measures of participant satisfaction. The findings add to the existing literature that demonstrates parent improvement in navigating special education systems, advances in special education knowledge, and family empowerment following direct training in special education law and advocacy skills.

In the third article, *Providing Education to Students with Visual Impairments During the Pandemic*, Rhoads, Silverman, and Rosenblum analyze data collected as part of the *Access and Engagement II* survey in November 2020 to understand the impact of the COVID-19 pandemic on students' technology needs as reported by Teachers of the Visually Impaired (TVIs) and Orientation and Mobility (O&M) specialists. Data were analyzed from 369 participants from the United States and Canada; all participants were working as itinerant teachers. The results revealed challenges and barriers increased for visually impaired students, yet some seemed to thrive in the virtual learning environment. Among the key lessons

learned from the findings: educators must ensure that students have full access to all learning materials, students need early instruction in technology use, and professional development in technology needs to be readily available to educators. Concerns were raised about O&M concepts such as correct cane techniques, street crossing skills, and specialized braille concepts such as correct hand/finger positioning that could not be taught online and reportedly were not being addressed during periods of remote instruction.

The fourth article, *A Digital Walk Through Digital Talk: Lessons Learned*, also focused on issues of AAC use during the pandemic. In this mixed-methods case study, von Hellens, Skubik-Peplaski, and Keener sought to evaluate the impact of a parental education program during COVID-19. The focus was on a single parent of a non-verbal 8-year-old female diagnosed with Autism and Attention Deficit Hyperactivity Disorder who had previously been issued a complex communication device but had never used the device, either at home or in the community prior to the study. The activities of the project included providing parent education on device use and suggestions for managing the device and AAC app with the intent of increasing the number of communication opportunities to enhance the child's participation at home and in the community. The results of this family-centered project indicate that the parent learned a great deal about the AAC device and observed clear examples of the device's acceptance and use by the child and her sibling to engage in communication. The child demonstrated increased confidence in using the device and was able to teach her sibling and mother how to use selected features. Despite the challenges and stress experienced by the family during COVID-19, open and clear communications between the family and therapists was thought to have made the difference in the successful outcomes of the project.

Poss, Gregory, and Marotta describe how Communities of Practice (CoP) have supported, and had a positive impact, on the delivery of AT services within a virtual environment in their article, *A Journey to Build a Community of Practice During the COVID-19 Pandemic*. This work offers an invaluable contribution to our understanding of the demands placed on school-based AT service providers as they studied the Twitter community, #ATchat. What was originally envisioned to be a short-term set of town halls to discuss how to respond to school closures, instead evolved into an ongoing weekly live virtual meeting driven by the participants' needs to understand how to provide virtual AT services. The authors noted that a common theme that arose within the CoP was the generous sharing of ideas. They describe one example where a member was so appreciative of the technology tools she learned about, that she created videos to pay forward the support she had been given. They conclude that CoP are likely to continue as an essential form of professional development for in-service support.

In the final article, *The Assistive Technology Services Experience of the 20-21 School Year*, by Sisk, Carr, and Tracy describe the adaptations of rolling out AT services in a large urban school district. This school district has a unit specifically devoted to providing Assistive Technology Services (ATS) to their 200 schools. This article describes the processes their team used to pivot from face-to-face training and events to remote support. They recognized the need for an intricate device cleaning procedure to prevent the spread of COVID-19. In terms of direct services, the AT team worked to ensure that every student received a device with access to inclusive tools and customized learning experiences. They reflect on

the lessons learned from this experience and begin to anticipate what changes will continue to evolve as “new” normal emerges.

CONCLUSIONS

The authors in this volume have illustrated many themes regarding assistive technology services during the pandemic, including: the essential nature of home-school communication; the importance of teams and coordination among educational service providers; the need for universal screening to ensure that each child with a disability has access to appropriate assistive and instructional technologies; the persistent need for evaluating accessible educational materials; the on-going need for teacher professional development and communities of practice that support sharing and problem-solving; and the need for people and systems to be patient, creative, and flexible. Yet, there is so much more to learn.

The disruptions cause by COVID-19 have exposed a number of structural inequities within educational systems (Simon, 2021) such as unequal access to technology devices, lack of reliable high speed internet service, and lack of parent training (Dorn, et al., 2020). Yet, research has demonstrated that parents with children who have disabilities face more significant burdens than parents in the general population supporting their children in pandemic distance learning (Neece et al., 2020; Riberio et al., 2021). As a result, much more attention needs to focus on the needs of students with disabilities in order to understand the ways in which the pandemic has exacerbated inequities. Therefore, ATOB extends an invitation for all voices to submit future manuscripts to enable the field of assistive technology to understand more about the lessons learned from the pandemic.

Despite the many challenges associated with the COVID-19 pandemic there are some reasons for optimism. For example, in Ireland, the National Disability Authority (2021) published a report describing how the lockdown fostered innovation to provide new opportunities for people with disabilities. They sagely observed, “Disruption is a golden opportunity for change” (p. 32). In the United States, policymakers have funded the American Rescue Plan (U.S. Department of Education, 2022) to assist states and local school districts in making targeted investments to minimize the impact of learning loss with special attention for funding allocations for assistive technology, home internet services, accessible learning management systems, expanded teacher training opportunities and more.

Over the past three years, society has longed to return to a pre-pandemic normal. Yet the definition of “normal,” however, remains elusive (Edwards-Levy, 2022). “Disruption is a huge catalyst for accelerating innovation. But it is not a given” (Salman, 2022).

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