Michelle Tanner, EdD, associate superintendent of the deaf for the Utah Schools for the Deaf and the Blind, envisioned online courses for the deaf and hard of hearing students in Utah and led their development.

Nathan E. Harrison, EdD, curriculum director for the Utah School for the Deaf, was the assistant director for the Jean Massieu School of the Deaf as the work for online courses was being developed and participated in implementing these courses with students.

Math, ASL, Social Studies—

Building a Deaf School Online

By Michelle Tanner, Nathan E. Harrison, and Adam Billings

In Utah, deaf and hard of hearing elementary school students can access their education—in American Sign Language (ASL) and spoken and written English—from their devices at home. Many secondary students can access online coursework as well. This is thanks to a four-year project undertaken by the Utah School for the Deaf (USD).

The Utah Schools for the Deaf and the Blind (USDB), the agency charged with serving deaf, blind, and deafblind students throughout the state from birth to 22 years old (§UCA 53E-8-401), began to develop online content for deaf and hard of hearing students in 2018. Utah is the twelfth largest state in the nation, and USD serves deaf and hard of hearing students throughout a vast geographical area. Four campus programs located in more densely populated areas of the state serve students on site, and an additional 390 students are served by an outreach teacher of the deaf provided by USD in mainstream programs throughout the state (Utah Schools for the Deaf and the Blind, 2021).

All Utah students have had access to online courses thanks to several initiatives within the state that made it possible for students to have a device at home for the purpose of education. Further, the Utah Education Network provided each local education agency (LEA) with free access to Canvas, a learning management system, used by USDB as well as many K-12 programs and universities throughout the country. This coursework is engaging and accredited, but it is not accessible to deaf and hard of hearing students. In most instances, it lacks captions or ASL, and usually it lacks both (Lago & Acedo, 2017).

Our goal was to provide online services—even an online school—for deaf and hard of hearing students, both those in our deaf schools and those in our mainstream programs.

Right: USDB staff and Deaf community members work with Utah students to ensure they are able to access online course content.

Adam Billings, MEd, division director of the Utah School for the Deaf Online, directed most of the daily details in online course development and helped make an online deaf school a reality.

The authors welcome questions and comments about this article at *michellet@usdb.org*, *nathanh@usdb.org*, and *adamb@usdb.org*, respectively.

Beginning—Partner with NTID
Provide Financial Course

To begin this hefty endeavor, USD established initial goals that have evolved over time. We decided to remain with Canvas and instructed all USDB teachers to make their educational content accessible through this platform; support for those who needed it was given through an educational technology specialist. In addition, USD hired Curt Radford, a Deaf person with a strong background in teaching online content to deaf students, for the position of online content coordinator, and he was available to our teachers as needed. Both the educational technology specialist and the online content coordinator were available to assist, as needed, in the creation of digital content. Some teachers took advantage of this support, and some did not. Some teachers adopted the use of Canvas wholeheartedly, and others did not. Training and support were provided to both groups to improve their skills.

We intentionally developed content to ensure it was accessible in ASL, written English, and spoken English. USD provided educational interpreters to voice for teachers who use ASL and written English—not spoken English—in their classrooms. This interpreter-educator

partnership expanded during the COVID-19 pandemic.

At the same time, USD partnered with the National Technical Institute for the Deaf (NTID) to develop financial literacy courses that would be available to our students as well as those at NTID. This provided an opportunity to merge both projects. Two teachers were identified, earned a stipend for the additional workload, and received training from NTID. It took time to refine and adjust but, before 2018 ended, a fully online financial literacy course became the first online course that USD made available to any student.

Continuing to Build
Mathematics and ASL

The next courses identified for online development were those in high school mathematics. With numerous courses requiring time to develop, synchronize, and teach, a single teacher was tasked; the teacher would use half of his time to create the content and half of his time to teach the classes. This teacher was given equipment for a home office, including a laptop setup, camera, and green screen; permitted to teach from home; and compensated for full time. Dr. Michelle Tanner, associate

(Lockee, 2021). For USD, the online department's influence helped campus teachers pivot to online learning in two days. Teachers developed online content and changed their teaching to meet the needs of students who were suddenly no longer in their classrooms. Due to the unique school situations during this time, USD educational interpreters were able to devote time to translation work for USD teachers, such as voiceover work for ASL videos and translating textbooks into ASL. This planned time to work on these efforts continues post-pandemic.

The online content for elementary students was achieved with urgency derived from the arrival of COVID-19 with its school closures and quarantine. Again, Dr. Tanner sought funding from the USDB Advisory Council and the Utah State Board of Education. This proposal included large stipends for participating teachers to develop accessible online content for specific grade levels. The goal was to complete the development of elementary content by the end of the summer of 2021.

As time went on, we discovered that outreach teachers could facilitate the courses, eliminating the need to hire more staff. The outreach teachers made these courses available to a larger group

superintendent of USD and co-author of this article, crafted a proposal to access USDB Trust Land Funds, which has the sole purpose in Utah State Code to "enrich the lives of deaf and blind students throughout the state of Utah" (§UCA 53E-8-407). The USDB Advisory Council and the Utah State Board of Education, responsible for governance of USDB, approved the use of the USDB Trust Land Funds for this purpose.

Shortly thereafter, USD ASL specialists designed ASL courses for deaf and hard of hearing students in mainstream settings. Most high school ASL courses are designed for hearing students, and the state requires only that students meet introductory language standards. USD would provide ASL courses that met the K-12 ASL Content Standards (Gallaudet University Laurent Clerc National Deaf Education Center & California School for the Deaf-Fremont, 2018) for teaching ASL as a first language.

As this evolved, an online department was needed to organize and guide the creation of more online courses and content. The outreach program director was assigned to monitor and build this program as an extension of this USD division. USD leadership notified LEAs

about the available coursework. Another teacher was hired to create and teach online social studies courses.

As more courses developed, USD leadership began to notify LEAs about the available coursework. During the COVID-19 pandemic—in the fall of 2020—all our online courses, including the English, ASL, math, and financial literacy courses, had grown sufficiently to warrant state reporting and recognition of the USD online school. Technology needs and Internet access were provided by the students' LEAs. USD hired another teacher for the online department to create and teach social studies courses and created a plan to tackle the creation of English courses.
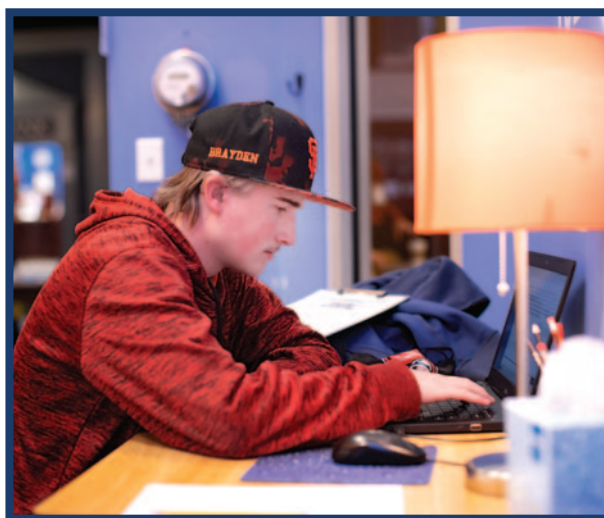
COVID-19 and Online Education
Looking Toward the Future

The closure of Utah public schools in the spring of 2020 began a change in the public education system toward more acceptance and options for online teaching and learning

of students immediately. During the 2021-2022 school year, USD entered into a partnership with the State of Utah's Statewide Online Education Program, which will increase our ability to reach students in LEAs across the state while bringing some small stipends per student to support online development. We recognize that working within a larger organization's parameters for online education will bring new challenges; these parameters haven't always served the needs of deaf and hard of hearing students.

Lessons Learned

Not all of these plans went as smoothly as we would have liked. However, we have learned a great deal in the process. We learned that elementary courses can be difficult to facilitate with younger students without additional support personnel working with individual students. Differences existed in setting up the programming for our campus classes that accessed online instruction during the quarantine phase of the pandemic as compared to online instruction developed for outreach students in mainstream programs. Additionally, online content creation is not a short process. Time and financial support need to be provided for teachers to create content, but content development can be a joint effort beyond just the online department. As we move forward, there are considerations that need to be made for how to support the social-emotional learning of deaf and hard of hearing students in an online environment, especially for courses that are asynchronous; students and teachers can participate in these courses at a time that works for them.

The positives of this effort encourage us in this difficult work. We can now provide online coursework in ASL, written English, and spoken English for elementary school students and many secondary courses for high school students. Students can work entirely from home, or they can make up a high school course for credit, or a student in the mainstream can access these online USD classes. We have discovered we can now leverage outreach teachers to facilitate the courses with these students, eliminating the need to hire more staff. Using current outreach teachers will make these courses available to a larger group of students immediately. Having an online teacher's assistant who can reach out virtually to students, teachers, and families each week improves students' completion of online coursework. Today, any deaf or hard of hearing student in Utah can take advantage of the USD Online School. Deaf and hard of hearing students can elect to work entirely from home or make up a single high school course for credit. Students in the mainstream can sign onto courses in ASL and see other courses in written and spoken English. A shift in thinking has occurred. Many teachers have re-evaluated traditional notions of what school means and looks like. At USDB, we have embraced the concept that "school is a verb, not a noun" (Harrison et al., 2020). Our teachers and our students continue to actively learn. We remain in motion.

Authors' note: Please visit USD online at www.usdb.org/programs/deaf-and-hard-of-hearing/statewide-outreach-services-for-the-deaf/online-courses/. If you are interested in learning more about developing a program for your state or area or collaborating, reach out to

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Dr. Michelle Tanner at michellet@usdb.org *or Adam Billings at* adamb@usdb.org. *We would be delighted to share the ups and downs of setting up this type of program in your area.*