

University of Wyoming ECHO in Assistive Technology:

A promising practice for capacity building in education to improve student outcomes

Jack is an engaging six-year-old who is just beginning kindergarten. He likes red trucks and he sometimes helps his mother care for his younger brother and sister. Nathan, who is 17, has a summer job at the local grocery store and, like many boys his age, spends time thinking about cars and having a driver's license. Both live in rural Wyoming towns, miles and mountain ranges away from specialists of any kind. Jack is blind and Nathan has a specific learning disability, so their educational plans include related service providers and assistive technology.

Jack's and Nathan's educators worked with the faculty and staff of Wyoming's Assistive Technology Act program, Wyoming Assistive Technology Resources, where they attended trainings, received technical assistance related to specific devices and contracted for on-site assistive technology assessments. In rural Wyoming and in similar

and even urban communities, an other nations addressing assistive technology one student, one school or one district at a time can be effective for the students of focus, but is inefficient and unsustainable for school districts.

Wyoming Institute for Disabilities at the University of Wyoming offers an innovative approach to building professional capacity in assistive technology in order to improve student outcomes. UW ECHO in AT's hub-and-spoke knowledge-sharing network links a "hub" of multi-disciplinary specialists with educator, administrator and service provider school "spokes" for weekly video conference training and mentoring based upon student case discussions. UW ECHO in AT is a translation of the successful Project ECHO® model, developed by Dr. Sanjeev Aurora at the University of New Mexico, for building professional capacity to meet underserved health care needs



and provide best-practice treatment to reduce disparities of care. Similar to Project ECHO, UW ECHO in AT delivers lifelong learning and guided practice that exponentially increases workforce capacity to provide assistive technology



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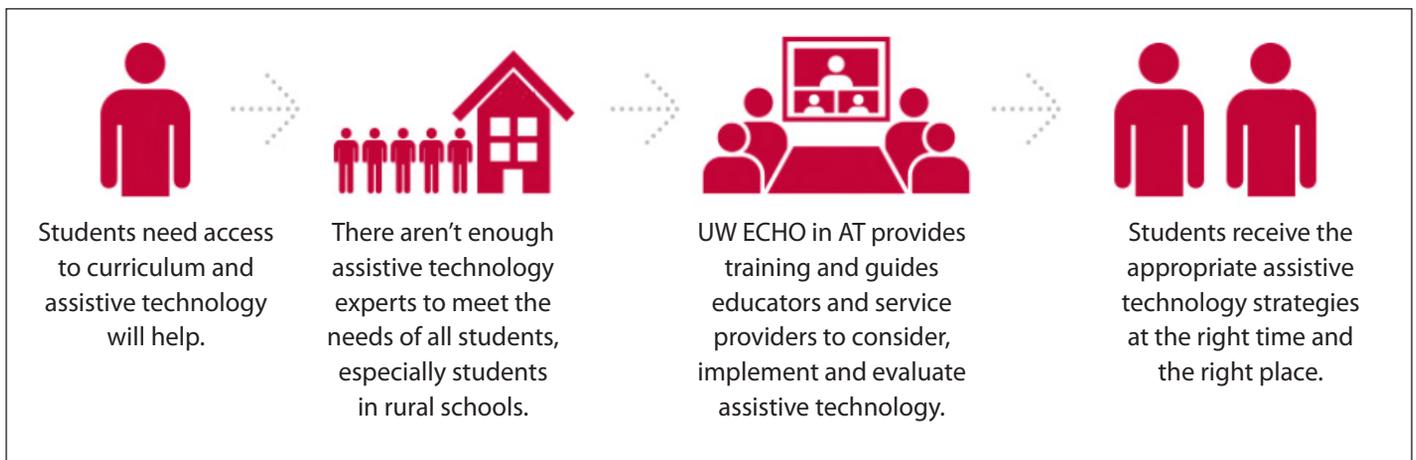
for students to ultimately reduce inconsistencies in student achievement.

Wyoming Institute for Disabilities applied the four key Project ECHO components during the year-long study of UW ECHO:

- distance technology to leverage scarce resources
- didactic training in best practices,
- co-management of student cases through Web-based conferencing
- outcomes measurement

Ninety-minute UW ECHO in AT sessions are conducted through a video and Web conferencing platform, Zoom (<https://zoom.us>). Each session begins with introductions, participant announcements and then we provide a didactic training on a specific assistive technology topic with time for questions from the UW ECHO in AT community. Following didactic training, “spoke” sites present de-identified student cases that include

their questions about the continuum of assistive technology services for each case. The multidisciplinary “hub” team of specialists and those participating at the school “spokes” discuss each case and make recommendations for the local team to consider. The hub team includes University of Wyoming professionals and faculty members in assistive technology, audiology, communication disorders and psychology joined by experts in vision, hearing and occupational, physical and speech therapy elsewhere in the state, along with the lead and other nationally known assistive technology trainers throughout the country. Participants at the school “spokes” include general and special educators, principals, case managers, related service providers and, in some sessions, the student and the student’s parent. As a follow up to the presentations, the UW ECHO in AT team compiles the evidence or research-based suggestions, supported with associated resources, including access as necessary to assistive technology devices available



UW ECHO in AT can be further understood this way.

through Wyoming Assistive Technology Resource’s device loan program. This information is provided in writing to each presenter within two weeks. Updates on cases presented are shared and discussed with the UW ECHO in AT community in subsequent sessions.

Ellen Holzmann, Nathan’s speech-language pathologist with 23 years of experience in a variety of settings, had been involved in various training opportunities as part of her school district’s assistive technology team and through Wyoming Assistive Technology

Resources at the University of Wyoming. She wanted to expand her knowledge in assistive technology to identify strategies or technologies to help Nathan and students with other learning challenges become more successful in school and life. When she contacted Wyoming Assistive Technology Resources for more information, she learned about their innovative professional development program and student co-management model, UW ECHO in AT.

For Nathan, it is difficult to complete reading and writing tasks due to poor



decoding skills. At the beginning of his sophomore year, his proficiency scores in reading, math and written language ranged from second to fourth grade levels. He had several accommodations

in place, including an adult reader, text-to-speech and, in some instances, a scribe. If grade level text was read to him by an adult or text-to-speech reader, he demonstrated good overall comprehension and his ability to answer questions across topics was typical of students in his age range. His teachers and service providers were eager to learn about assistive technologies to help him become more successful and independent.

Jack's mother talks about assistive technology "putting Jack in the driver's seat so that he makes his own decisions and his disability doesn't make decisions for him." His teachers needed assistance in preparing for him to begin kindergarten. During the expanded pilot, three didactic and two case presentations were dedicated to low vision and blindness. Jack's educational team from the developmental preschool and the school district attended the sessions and learned about evidence-based practices, as well low- and high-tech solutions from vision specialists who are members of the UW ECHO in AT hub team. His team is implementing recommendations from the sessions and will soon report back on his progress. What UW ECHO in AT means for Jack is that his teachers, most likely new each year, can strategize with a multidisciplinary team of specialists every week about assistive technology to help improve his academic outcomes now and in the future.

Ellen presented Nathan's case during a UW ECHO in AT session in order to "gain strategies to enable Nathan to access grade-level curriculum as independently as possible and to assist in the beginning stages of transition from secondary to post-secondary education." The coaching model, central to the co-management of cases, provided recommendations, such as writing apps, text-to-speech programs, self-determination skills and assistive technology strategies that Ellen could bring to Nathan and his teachers.

His educational team implemented suggestions that same week. Ellen also presented another student case at a UW ECHO in AT session during the same semester. She described her UW ECHO in AT experiences as "eye opening". Gaining the perspectives of the multidisciplinary team members provided her with "a different look at each student but in consideration of the 'whole' student."

As a result of her participation in UW ECHO in AT and the team's suggestions, Nathan completed the paperwork to become eligible for Accessible Educational Materials (AEM, 2015) and registered for an accessible online library for individuals with a print disability. Like all students at his high school, he received a Chromebook this year. In addition, Nathan was provided with a mouse, a portable microphone and headset that allow him to write in-class assignments using speech-to-text software. He was introduced to two apps for the Chromebook that offer word prediction and additional literacy support tools for struggling readers and writers. What UW ECHO in AT means for Nathan is that he can work toward being an archeologist or paleontologist because his educators will help transition him with the appropriate assistive technology for post-secondary education.

As is the case with Nathan's and Jack's schools, as well as other rural school districts, complete teams of assistive technology specialists are rare, but there are several professionals who have interests in learning more about how to implement appropriate strategies and devices. Ellen suggests,

"UW ECHO in AT provides me a clear sounding board. Having a panel of experts provide me, my student and his parent the additional information and suggestions ensured me that I was on the right track with Nathan's assistive technology needs. It's great to have this group of individuals review all the information regarding my students'



strengths, abilities and struggles. UW ECHO in AT supplies me with a variety of options and an all-inclusive list of solutions that can be applied to not only Nathan, but other students in our districts. " She adds,

"The UW ECHO in AT team enabled me to do my job more efficiently and makes certain that I can provide a totally comprehensive assistive technology package for each individual student. It is an invaluable resource to our state."

Ellen reported that having eBooks for literature and textbooks has enabled Nathan to access his grade level curriculum independently. Having text-to-speech has significantly cut down on the amount of time he spends reading his classroom and homework assignments. His teachers were supportive throughout the process and were willing to provide the guidance and instruction needed in order to utilize AT to the fullest. Ellen's next steps are to assist him in building strong self-determination skills that will help him make the transition to a post-secondary educational setting and maintain continuity of his AT use through continued support to the new teachers who are invited to ECHO to brainstorm

Gayl Bowser, UW ECHO in AT Lead Trainer and nationally recognized expert in the assistive technology, explained the significance of UW ECHO in AT as a model for the nation.



Gayl Bowser

“While a UW ECHO in AT session can sometimes feel as comfortable as an informal conversation in a teachers’ lounge, the depth of knowledge shared makes it one of the most valuable and exciting ways to explore students’ assistive technology needs that I have ever encountered. UW ECHO in AT combines the best aspects of an expert assistive technology assessment model with the strengths of a model focused on services provided by local assistive technology teams. Local case presenters, who have an in-depth knowledge of the students, environments and educational tasks for each case, have the ability to access expert knowledge about the specific assistive technology tools and strategies that may be most appropriate for each case presented. The assumption that each team member has an important piece of the assistive technology puzzle appears to me to lead to better implementation of assistive technology plans and the likelihood of more sustained assistive technology use over time.”

any challenges that may arise along the way.

The information the educators receive is current and rooted in research or best practices. Also, the information is shared to all participants and has the potential to be relevant for many other students. Project ECHO describes this phenomenon as “forced multiplication: a logarithmic improvement in capacity to deliver best practice care for underserved populations” (Arora, 2013).

Professionals like Ellen need access to the latest research and technologies in order to consider and implement assistive technology strategies to meet the emerging needs of Nathan, Jack and all students in their schools. They need a platform to discuss how to implement evidence-based practices in context with specific student needs and to be allowed to brainstorm with professionals across the state and nation. UW ECHO in AT is that platform. UW ECHO in AT is building the capacity of educators to disseminate and implement best practice within their communities to improve the outcomes of students in Wyoming and beyond.

We will further discuss UW ECHO in AT’s fidelity to the Project ECHO model, the growing number of partners from within and outside Wyoming, and the external evaluation results from our of the year-long study of UW ECHO in AT in the December 2015-January 2016 edition of [Closing the Gap Solutions](#).

For more information about the project, participating in a session, or replicating UW ECHO in AT, please visit the project website: <http://www.uwyo.edu/wind/echo/>.

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