

Wyoming's Professional Learning Community Approach to Building Capacity in Assistive Technology

In Wyoming, where three quarters of all students with a disability are served in rural communities, assistive technology service delivery is limited. There is minimal expertise and travel by specialists to schools is complicated by rugged, mountainous terrain, vast open prairies, and prolonged periods of harsh, winter weather. In 2012, Wyoming Assistive Technology Resources (WATR) launched a professional learning community to successfully build capacity for assistive technology in education.

Just two percent of Wyoming students with a disability were reported to be receiving assistive technology in 2007. As initial steps to build educational capacity for assistive technology, Wyoming Assistive Technology Resources, the state's Assistive Technology Act program, developed training, technical assistance and a team for assessing student needs for assistive technology. Along with device loans and device demonstrations, these services built knowledge through experiential learning. However, their influences were typically limited to one category of devices, one student, one educator or one school at a time. It was clear, that to integrate assistive technology all for students in Wyoming, a new approach was needed.

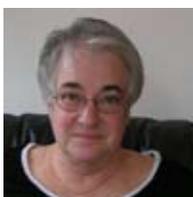
In a 2004 literature review, Copley and Ziviani discussed barriers to assistive technology use by children with multiple disabilities in educational settings. After funding and access to technology, assistive technology service delivery, in the form of training support, as well as planning for assessment and implementation, were identified as primary barriers to effective assistive technology use (p. 237).

What we have learned about assistive technology, over time, is that it takes more than effective matching of student needs to technology features to ensure that assistive technology is an everyday tool in the classroom. Common reasons given for lack of assistive technology integration into classroom settings include the following explanations:

- Classroom staff doesn't know what to do with the assistive technology
- Assistive technology is too hard to manage
- Students who use assistive technology do not have access to school networks
- Students may not be able to use their assistive technology on state assessments (Bowser, 2010)



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Several of the Wyoming Professional Learning Community project designers were familiar with assistive technology capacity building projects in other states. Collectively, we had participated in assistive technology team projects in Arizona, Florida, Louisiana, Minnesota, New Mexico and Oregon. A review of these projects revealed a list of common characteristics.

- Participants include multidisciplinary teams of three to eight individuals from a district or region
- Administrative involvement and support with the assistive technology team
- Use of a self-evaluation tool
- Team goals established based on the self-evaluation and district priorities
- Initial face-to-face training provided by expert assistive technology practitioners
- Ongoing support or mentoring after initial training

WY Professional Learning Community in Assistive Technology Members by Wyoming School District

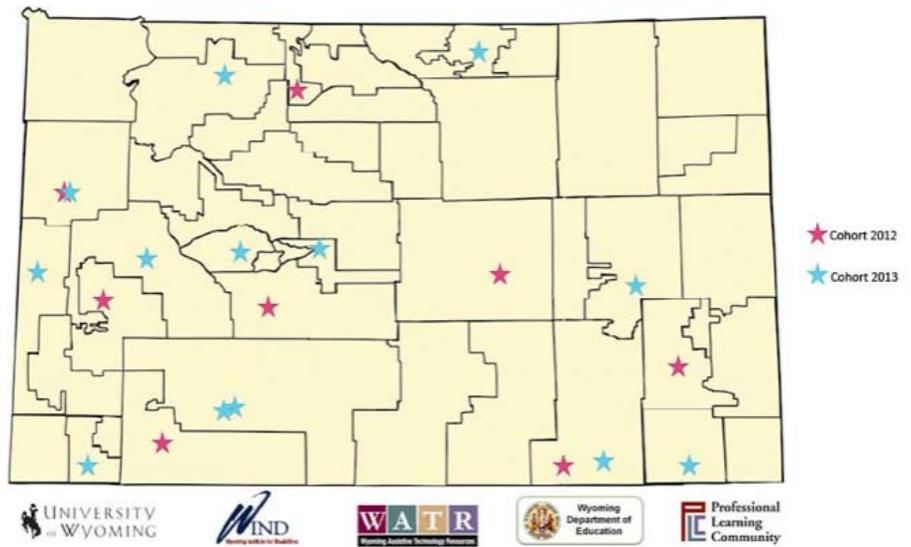


Figure 1: Map of Wyoming School Districts with 2012 and 2013 Professional Learning Community Members.

As we reviewed the work of other states, we realized that an important variable in the projects was the degree to which they focused on specific assistive technology devices. Some projects provided devices to participant teams while others offered awareness-level training and exposure to a range of devices but primarily focused on the agency's model for assistive technology services.

We also looked at state Assistive Technology Act programs and became aware that the unique nature of the geography and population density of Wyoming would have an impact on the project we developed. Wyoming is the least populated state, with 576,626 persons, 5.8 persons per square mile, and the tenth largest in terms of land area. We knew that there was an interest in assistive technology among Wyoming educators, whether they identified as Assistive Technology Specialists or simply hoped to provide technology for their students with disabilities. We assumed they were isolated from each other and lacked resources. Because of this, we knew that important aspects of our project would include ongoing opportunities for community building, networking and social interaction that did not require extensive travel. We also determined that, because over half of the 48 school

districts in Wyoming have fewer than 1000 students and one fourth have fewer than 500 students, it would be necessary to recruit individual district representatives rather than multidisciplinary teams for the project (Wyoming Department of Education Data, 2014).

A state-wide professional learning community approach was identified as an appropriate model to build Wyoming's capacity. The term "professional learning community" refers to a way of operating that emphasizes the importance of nurturing and celebrating the work of each individual member and of supporting the collective engagement of members in such activities as the development of a shared vision of schooling and learning, capacity building, problem identification, learning and problem resolution. It is an environment in which members can learn and continually increase their ability to create the environment they desire.



Professional Learning Communities are exemplified by collaborative work that is grounded in reflective dialogue, in which staff have conversations about students, teaching and learning, identifying related issues and problems and debating strategies that could bring about real change in the organizational culture (Ontario Ministry of Education, 2005). Common elements of a PLC include:

- Shared vision and values
- Solutions actively sought
- Working teams cooperate to achieve common goals
- Encouragement of experimentation as opportunities to learn
- Ongoing quest for improvement and professional learning
- Evaluation of outcomes
- Reflections about the operation and impacts of actions taken (Levine & Shapiro, 2004).

Day	Curriculum Plan
Monday	Project Overview, District Self-Evaluation, Creating a vision for the state
Tuesday	A collaborative model for assistive technology services
Wednesday	Focus on assistive technology devices, accessible instructional materials
Thursday	Providing assistive technology supports, role of school administrators
Friday	Return to shared values and vision, personal and community future planning

Table 1. Wyoming Professional Learning Community in Assistive Technology Curriculum

What we also knew from our research into the nature of professional learning communities was that a foundation for our community required the development of a mission, a vision, shared values and a focus on student success rather than specific technologies (Eaker, Dufour, & Burnette, 2002).

Wyoming's Professional Learning Community in Assistive Technology, funded by the Wyoming Department of Education, was launched in 2012. Our work was guided by a twofold mission: to increase awareness about assistive technology among Wyoming educators and to increase the appropriate implementation of assistive technology for Wyoming students.

We began by sharing information about the professional learning community project with principals, administrators and special educators in Wyoming school districts. We wanted to recruit potential members from their districts who had experience and interest in assistive technology. Applicants were required to submit background information, as well as a letter of nomination

from a supervisor or colleague and a letter of commitment from his or her supervisor. We wanted to make sure that the members we selected were not only interested in the training but would have ongoing support for building capacity in their districts. From a pool of 41 completed applications the first year and 32 the second year, an initial eight, then 13 additional members were selected (See Figure 1, Map of Members). Those selected had some experience with assistive technology and demonstrated leadership potential, a history of working well in a team and significant interest in being part of the learning community. Our plan was to provide members with the skills and training to guide their schools and districts along the complex path of continuous assistive technology improvement by forming a hub that offered the members opportunities to share their knowledge with colleagues, families, community members and each other.

Once project participants were selected, we asked them to complete a skills self-assessment regarding assistive technology devices, services and legal requirements (See Figure 2, Self-Assessment). This skills assessment was the first thing we considered in the development of the curriculum for the initial face-to-face meeting.

After a curriculum review of other projects with which we had experience and analysis of the members' self-assessments, we began the process of developing the curriculum. The Quality Indicators for Assistive Technology Services (QIAT, 2009) formed the foundation of our topics. Other frameworks, such as Education Tech Points (Bowser & Reed, 2012) and The SETT Framework (Zabala, 2005), provided guidance on the ways that the QIAT indicators could be

put into action. Based on these national models for assistive technology services and self-assessment data from participants, a 5-day curriculum was developed (see Table 1, Curriculum).

The members spent a week (first year members spent a second week the next year) on the University of Wyoming campus for intensive training, along with leadership skills and community building activities. To earn stipends, members attended the in-person training, community and leadership activities, set personal goals for improving practices in districts, then reported on progress toward their goals and participated in ongoing distance trainings and networking.

While initial funding was available for the project, we also knew that this funding would only be available for a limited time. Because of this, it was important to build a program that could be ongoing and provide supports to be self-sustaining once the community was established. We determined that one important aspect of the project would be the use of Web 2.0 tools, such as conference calls, blogs, webinars, electronic mail lists and video-conferencing as communication strategies. Later, as work groups began to form around specific professional learning community topics, we also included document-sharing resources (e.g. Google Docs, Drop Box) in order to work together at a distance.

The members met and then surpassed our expectations. To date, they have completed their personal action plan goals in assistive technology, most of which correspond with one of six categories: form district teams, implement written policies and procedures, develop a student consideration process, enhance

administrators' understandings, provide training and information to parents, and improve data collection and reporting. As the group discussed gaps and promising practices in the state, they compiled, then submitted guidance to the department of education. They recommended that the department provide or support: ongoing training and professional development, availability of information and resources for all stakeholders, recommended policies and procedures, implementation of assistive technology for all students in any environment.

After the in-person training was provided in 2013, the larger community formed four work groups to complete a state-specific parent guide to assistive technology, trial device sharing among districts and recommend a process of assistive technology consideration for students that is now available for use by all districts. Recently, the members helped test the translation of a capacity building model that has been

remarkably successful in addressing health care issues throughout the world for use in education for assistive technology. Owing to the pilot's success, members will help expand and enhance this model for use throughout the state and perhaps other states and even countries in 2015.

Preliminary results from an external evaluation indicate that members reported increases in knowledge and they demonstrated increases in skills (Data Driven Enterprises, 2014). Wyoming will likely remain a sparsely populated state with harsh winter weather and few roads. The majority of Wyoming school districts are likely to always have fewer than 1000 or 500 students. Yet now, through the ongoing work of the Wyoming Professional Learning Community in Assistive Technology, school districts have an educated and passionate team to help assure that students with disabilities in Wyoming receive the assistive technology they need.

According to several studies that have examined the effects of implementing a participative management method, such as learning communities, the most notable impact is that participants develop a feeling of empowerment – a feeling that their strengths and skills are allied, that they have natural systems for mutual help and that they engage in proactive behavior when facing changes (Zimmerman & Rappaport, 1988, p. 55). Anne Baures, a 2013 cohort member, wrote that being a member of the community "... has given me the confidence, tools and networking opportunities to be able to implement an assistive technology team, process for our school district and also the resources to be able to carry through with our plans for students. It would've been extremely difficult to initiate our district plan and development without [the] sharing, collaboration with colleagues and trainers, trainings, and the continuous support" (2014).

Assistive Technology Skills Self-Assessment

Name: _____ Date: _____

I. General Assistive Technology Knowledge

Indicator	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree
1. I know what AT is.	4	3	2	1
2. I understand how AT can benefit students with disabilities.	4	3	2	1
3. I know about the legal requirements to provide AT for students with disabilities.	4	3	2	1
4. I know how AT services are defined.	4	3	2	1
5. I know the implications of local, state, and federal AT rules and regulations.	4	3	2	1
6. During every IEP meeting for my students, the team considers the child's need for AT.	4	3	2	1
7. I can describe student achievements that result from AT use.	4	3	2	1
8. I can identify at least one new AT topic that I would like to know more about.	4	3	2	1
9. I know and use at least three sources of information about AT (websites, blogs, electronic lists, journals, etc.).	4	3	2	1
10. I know where to find in-person and just-in-time training about AT.	4	3	2	1

II. Assistive Technology Process Skills

Indicator	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree
1. I have the necessary level of understanding of AT to fulfill my role as an IEP team member in the consideration of need for AT.	4	3	2	1
2. I know how to use information about the Student, Environment, Tasks and Tools to implement an AT assessment.	4	3	2	1
3. I know how my agency wants me to respond to a parent's request for AT.	4	3	2	1
4. I know how to implement a trial period if I believe that a student needs AT.	4	3	2	1
5. I know who to contact when I need additional assistance with AT questions.	4	3	2	1
6. I know how to use data in making AT decisions.	4	3	2	1
7. I know how to include AT in IEPs.	4	3	2	1
8. When disagreements or conflicts arise over a student's need for AT, I know what I should do.	4	3	2	1
9. I know how to teach a student to use a new AT device.	4	3	2	1
10. I know how to help a student integrate AT use into his/her daily educational program.	4	3	2	1
11. I know how to assess the effectiveness of a student's AT use.	4	3	2	1
12. I know and observe copyright rules regarding materials developed or adapted for use by children with disabilities.	4	3	2	1

III. Assistive Technology Use Skills

Skill Self-Rating Key:

Rating	Definition
Unfamiliar	Unfamiliar: This is new to me. What is it?
Awareness	Awareness: I have heard about it, but I need basic information.
Knowledge	Knowledge: I know what it is, but I'm not ready to use it. I need training.
Application	Application: I am able to apply this. I can design, and use it in my program.
Mastery	Mastery: I am ready to work with other people to help them learn this. I feel confident enough to demonstrate this to others.

Skill Area	Unfamiliar	Awareness	Knowledge	Application	Mastery
A. Access					
1. Determine a way for students to access toys, games and other materials through enlarging, stabilizing, use of switches, etc.	1	2	3	4	5
2. Determine an effective way for a student to operate/access a computer and/or other AT.	1	2	3	4	5
B. Activities of Daily Living					
1. Select and use a variety of low tech aids to position and stabilize items.	1	2	3	4	5
2. Select and use adaptive utensils and aids for eating, drinking, dressing, hygiene and cooking	1	2	3	4	5

3. Identify a child's need for greater control of his/her environment.	1	2	3	4	5
4. Design opportunities to use aids to daily living and select appropriate AT.	1	2	3	4	5
5. Operate and use a variety of aids to daily living.	1	2	3	4	5
6. Adapt or select and use adapted toys, games and recreational sports equipment.	1	2	3	4	5
7. Select and use a variety of AT, including software, for access and interaction	1	2	3	4	5
C. Augmentative Communication (AC)					
1. Identify important features of AC devices.	1	2	3	4	5
2. Match student needs with features of AC devices.	1	2	3	4	5
3. Operate/utilize a variety of AC devices from simple to complex.	1	2	3	4	5
4. Determine the best form of vocabulary representation (e.g. pictures, symbols, words), select, and organize vocabulary in a usable system.	1	2	3	4	5
5. Train communication partners.	1	2	3	4	5
D. Hearing Technology					
1. Identify when amplification of sound may be necessary for a student in an educational setting.	1	2	3	4	5
2. Operate/use assistive technology for telecommunications, assisted listening and alerting.	1	2	3	4	5
E. Learning/Studying					
1. Develop and use a variety of print and picture schedules.	1	2	3	4	5
2. Select and use a variety of aids, including hand-held and on-line tools to locate, highlight and track information.	1	2	3	4	5
3. Use software to highlight, manipulate and/or organize information.	1	2	3	4	5
F. Math					
1. Identify and use a variety of math aids and low tech AT.	1	2	3	4	5
2. Select and use a variety of voice output aids for math operations, (e.g., counting, measuring, computation).	1	2	3	4	5
3. Select and use software to provide cueing assistance in math operations	1	2	3	4	5
G. Mobility/Seating/Positioning					
1. Recognize and analyze the impact of seating/positioning on the child's attention, energy and ability to access AT devices.	1	2	3	4	5
2. Determine when and why a child may benefit from assisted mobility.	1	2	3	4	5
3. Identify important features of mobility devices.	1	2	3	4	5
4. Select and utilize AT for mobility or stabilization.	1	2	3	4	5
5. Design and implement a sequenced intervention to teach a child to operate/use an assisted mobility device.	1	2	3	4	5
H. Reading					
1. Identify need for and use an array of low tech solutions to assist with reading text (changes in color, size, font, use of guides, etc.).	1	2	3	4	5
2. Create and use pictures with text to support reading.	1	2	3	4	5
3. Use a variety of tools to speak text to accompany the printed words (talking books, software, eReaders, etc.).		1	2	3	4

I. Vision Technology					
1. Use low-tech vision aids to enlarge text.	1	2	3	4	5
2. Operate and use text-to-speech, screen reader and screen enlarger/magnification software.		1	2	3	4
3. Operate and use Braille printers, Braille translation software, refreshable Braille, Braille keyboards and Braille notetakers.	1	2	3	4	5
J. Writing – Composing Written Material					
1. Identify and use a continuum of AT solutions from low to high tech for composing written material.	1	2	3	4	5
2. Complete informal assessment techniques (e.g., environmental inventory, interview, observation) to determine need for AC.	1	2	3	4	5
K. Writing – Motor Aspects of Writing					
1. Identify and use a continuum of AT tools from low to mid tech for difficulties with motor aspects of writing.	1	2	3	4	5
2. Identify and use software to decrease or change the motor demands of writing.	1	2	3	4	5
3. Understand and use tools to augment writing skills, such as word-prediction, macros and electronic word walls.	1	2	3	4	5
L. Additional, Self-Identified Skills					
1.	1	2	3	4	5
2.	1	2	3	4	5
3.	1	2	3	4	5
4.	1	2	3	4	5
5.	1	2	3	4	5

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