2017-2018
DIGITAL LEARNING PLAN
ANNUAL REPORT

WYOMING
DEPARTMENT OF EDUCATION

Table of Contents

REPORT PREPARED BY THE WYOMING DEPARTMENT OF EDUCATION

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Introduction

Over the past year, the Wyoming Department of Education (WDE) teammates have focused their efforts on the Digital Learning Plan (DLP). This annual report highlights the status of all the digital learning projects from 2016-17, and introduces new initiatives. Many of these initiatives would not be possible without the help of the WDE's state and national partners, and these partnerships were the focus of the 2016-17 annual report. This year, the focus is on the measures of success for each initiative, and to show how this important work is moving the needle in Wyoming.

Future Ready Framework

The Future Ready Framework is a robust structure for digital learning visioning, planning, and implementation focused on personalized student learning, making it an ideal structure in which to organize and communicate the DLP. This framework models a statewide support system focused on personalized student-centered learning, and is research-based and includes seven key categories, or gears, that are critical to address during a comprehensive planning process. A detailed description of each gear can be found in Appendix B.

SNEAK PEEK INTO 2018-19 SCHOOL YEAR

The WDE has started planning the initiatives for the 2018-19 school year, including these major projects:

- Launch OER project - Open Range Wyoming.
- Develop digital learning guidelines.
- Develop computer science standards.
- Develop micro-credentialing and badging opportunities for Wyoming educators.
- Develop return on investment analysis and technology resources.

DIGITAL LEARNING PLAN PARTNERS

State

Array School of Technology and Design
Gannett Peak Technical Services
Governor's Office
Professional Teaching Standards Board
University of Wyoming
Wyoming Business Alliance
Wyoming Community College Commission
Wyoming Community Colleges
Wyoming Curriculum Directors Association
Wyoming Distance Education Consortium
　　　　(WyDEC)
Wyoming Department of Audit
Wyoming Department of Enterprise
　　　　Technology Services (ETS)
Wyoming Game and Fish Department
Wyoming Department of Workforce Services
Wyoming Legislature
Wyoming School Districts
Wyoming School Libraries
Wyoming State Board of Education
Wyoming State Library
Wyoming State Museum

National

Alliance for Excellent Education-Future Ready
Apple
Code.org
EducationSuperHighway
ESRI, Inc.
Friday Institute for Educational Innovation
Instructure
North Central Comprehensive Center (NCCC)
Mid-Continent Research for Education and Learning
　　　　(McREL)
Microsoft
Quality Matters
State Education Technology Directors Association
　　　　(SETDA)
Teachers Teaching Tech
Williams

Statewide and National Collaboration

To accomplish the goals outlined in the DLP, collaborative partnerships across the education spectrum are essential. The success of the projects and initiatives described throughout this annual report would not have been possible without partners at local, state, and national levels. All projects have multiple partners working on them which makes each more meaningful and successful by allowing the WDE to leverage the collective knowledge and skills of everyone across the education spectrum, including industry partners.

K-12 and postsecondary institutions across Wyoming banded together to improve access to education opportunities and harness economy of scales to purchase a K-20 statewide Learning Management System (LMS) named Canvas. This project would not have been possible without the University of Wyoming, the five community college districts, the WDE, and school districts working together to find a solution that would meet everyone's needs while adequately housing virtual education courses. By negotiating a state rate for K-12 and postsecondary education, all of the institutions saved money while becoming part of the statewide initiative.

Legislation was passed in the 2018 that requires all schools to offer computer science and computational learning by the 2022-23 school year. There were many state and national partners (see list below) who had key roles in helping pass this legislation. Without these partners, who carved out time to serve on the task force and made recommendations on statutory changes, the legislation might not have passed. Stakeholders, including many national partners, traveled to Cheyenne to testify in front of legislators to stress the importance of computer science and computational learning in schools and the impact the legislation will have on students and their futures.

Free Online Education Resources

Open Education Resources (OERs) are freely accessible, openly licensed text, media, and other digital assets that are useful for teaching, learning, and assessing. Through the **Creative Commons** license, OERs can be personalized to meet the needs of individual students, without violating copyright laws. OERs can include full courses, course materials, modules, textbooks, streaming videos, software, or techniques used to support access to knowledge[1]. Committing to using OERs not only increases equal access to high-quality educational opportunities for all students, it also enables districts to repurpose funding traditionally spent on textbooks for other initiatives, such as transitioning to up-to-date digital learning.

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1   http://www.hewlett.org/strategy/open-educational-resources/

To increase knowledge of the benefits of OERs and encourage use of OERs in the classroom, the WDE hosted a spring OER Webinar series. It consisted of 11 sessions, lasting one hour each, and featured both state and national speakers. The series will be continued in the fall of 2018 and feature information on aligning OERs to Wyoming State Standards, OER Commons guidance, and support in the creation of OERs by Wyoming state educators.

OPEN RANGE WYOMING

To help educators develop and access high quality OERs, the WDE has been working on an initiative called Open Range Wyoming. It is an open-education resource platform that will be used to create and maintain a searchable statewide repository of openly-licensed educational resources. This platform is designed to help support Wyoming school districts and educators as they transition to the use of high-quality, openly-licensed educational resources in their schools. The overall goal of this initiative is to provide high-quality Wyoming-created resources aligned to Wyoming standards that have been vetted and are ready to use.

Open Range Wyoming will be hosted by OER Commons. This online library resource gives us the flexibility to have a hub for Wyoming-created resources, all while giving educators access to OERs from across the globe, many of which have been vetted for quality by other states. The Open Range Design Team is a partnership between the WDE, University of Wyoming, Western Wyoming Community College, Wyoming State Library, teachers, and representatives from school districts across the state. Open Range Wyoming is schedule to launch in the 2018-19 school year.

MEASURES OF SUCCESS

Open Range Wyoming measures of success:
- Design team created
- Selected the statewide platform for Wyoming OERs
- Standardized vetting and curation process
- Educators creating and submitting OERs
- Aligned OERs to Wyoming State Standards

Improved Classroom Internet Connectivity

WYOMING CLASSROOM CONNECTIVITY INITIATIVE

The Wyoming Classroom Connectivity Initiative (WCCI) was created in 2016 as a partnership among Governor Matt Mead's Office, the WDE, the Wyoming Department of Enterprise Technology Services (ETS), and the national non-profit EducationSuperHighway (ESH). Assisting districts with improving connectivity

and helping Wyoming districts make more effective use of allocated federal E-Rate Category 2 funds has been the main focus of the WCCI. With sufficient internet access coming into each district, the WCCI focuses on the next step in connecting students to the internal networks within schools.

Figure 1 shows how the WCCI has provided support to districts by:
1. Bringing districts together to collaborate and support each other on how to they have solved internal infrastructure issues.
2. Providing multiple education opportunities for technology directors. This includes a webinar series on connectivity and E-Rate. ETS and ESH also held office hours to provide guidance to districts that submitted their E-Rate applications.
3. Providing 1-1 district support.
4. Outreach to vendors to equip them to be better able to respond to district request for proposals.

No state dollars are allocated to the WCCI and ESH provides its services to Wyoming for free.

FIGURE 1: SUPPORTS PROVIDED THROUGH THE WYOMING CLASSROOM CONNECTIVITY INITIATIVE

INCREASED FUNDING REQUESTS BY 21%

CONVENINGS

EDUCATION

WCCI

1-1 DISTRICT SUPPORT

WORKING GROUP

PROVIDER OUTREACH
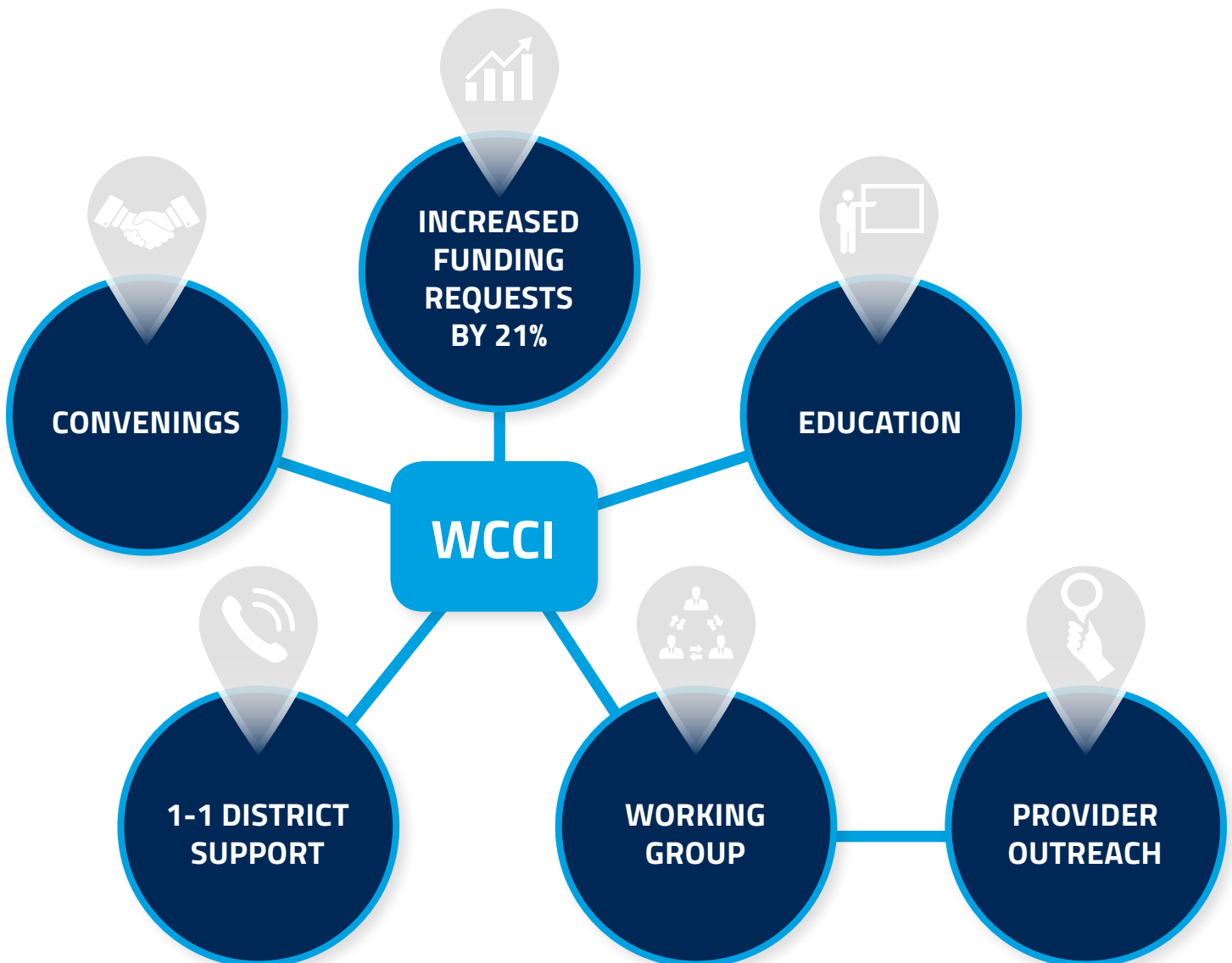
WDE personnel offered technical assistance to two Wyoming Court Ordered and Medically Necessary Placement of Students (COMPS) facilities, Red Top Meadows (RTM) and Cathedral Home for Children (CHC) in an advisory role to determine a network infrastructure and internet connectivity upgrade plan. Site visits to review current "state-of-the-network" were conducted in the summer of 2017. A formal plan to improve connectivity was subsequently presented to CHC in the fall of 2017, and ongoing discussions and planning for RTM continue. CHC has increased its internet bandwidth tenfold, and intends to continue with the plan to improve infrastructure. RTM will soon contract with an internet service provider to increase internet bandwidth tenfold, with infrastructure upgrades planned for the summer of 2018.

As a result of the outreach and assistance, Wyoming school districts submitted applications early in the FY2018 application window. The Universal Service Administrative Company (USAC), E-Rate program, operates in a "first in, first out" review approval process. Wyoming districts submitting early within the application window has resulted in early funding approvals. Many received funding decision letters within the first two USAC funding waves.

CATEGORY 2 FILING REQUESTS FROM WY DISTRICTS

$ Millions

- 2017: 1.28M
- 2018: 1.55M
- 21% increase
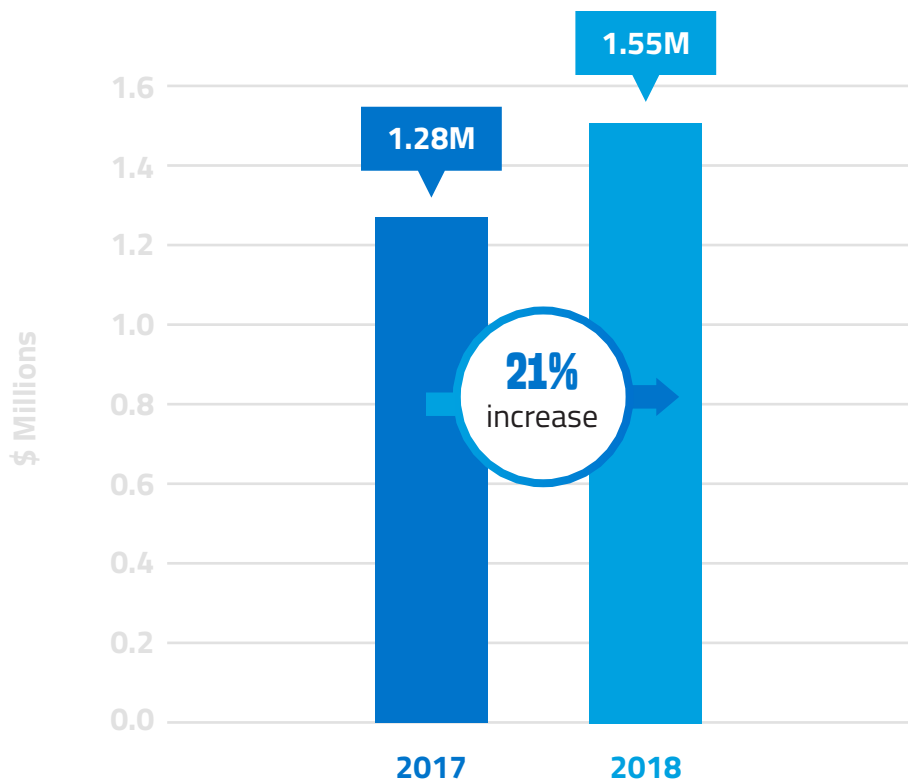
These positive results demonstrate two important things: first, they show that Wyoming districts are more effectively applying for their pre-allocated federal E-Rate funds, enabling robust internal infrastructure for digital learning inside the classroom while freeing up money for Wyoming districts to put to other use; and they next show that more districts across the state chose to file for these funds, increasing equity of access across the state.

MEASURES OF SUCCESS

The measures of success of this program include:
- 21 percent increase in Wyoming statewide Category 2 E-Rate filing requests from 2017.
- 19 Wyoming districts filed for a total project cost of $1.55 million, which was an increase from 2016.
- Increased cost-savings for school districts.
- Increased access to digital learning opportunities for students.

PRIVACY REQUIREMENTS

Data privacy and security are foundational elements of digital learning. The WDE and school districts work to establish sound data governance policies that are enacted and enforced to ensure the privacy, safety, and security of confidential data sets. These policies and procedures ensure only authorized persons have access to the information and data. Education professionals have a range of resources, trainings, and services available to build awareness and capacity to implement such policies and procedures with precision. The WDE, ETS, Department of Audit, and districts have collaborated to develop a set of model data usage, privacy, and security policy guidelines. Districts were responsible to adopt district-level data privacy and security policies by January 1, 2018.

The guidelines and examples are available on the **WDE's Data Governance webpage**. The mandate policies and procedures have been discussed with district technology directors in many collaborative work sessions. The WDE has received significant positive feedback requesting to continue providing professional development to districts and schools on data analysis, and WDE has committed resources to the development and use of such tools.

MEASURES OF SUCCESS

Privacy Requirement have seen the following measures of success:
- The WDE has provided data usage, privacy, and security policy guidelines to districts.
- All districts have adopted data governance structures.

WY-FI

The Wy-Fi educator dashboards save teachers time by providing high-quality tools that organize student data from disparate sources. States, districts, and schools across the nation are now using research-based indicators to identify students at risk of failing to meet key educational milestones such as reading at grade level, on-time graduation, or college readiness. By identifying students early, educators can target interventions and supports to help students achieve readiness and success. Empowering educators with timely data to identify at-risk students early is crucial, and the dashboards were designed to assist teachers to dive deeper into personalized learning to improve student outcomes. This easy-to-use dashboard provides educators with a complete and intuitive view of every student, classroom, and school with data from the districts' student information system (SIS), WDE databases, & assessment vendors.

Each school district currently using the dashboard is asked to sign a Memorandum of Understanding (MOU) prior to onboarding. The purpose of the MOU is to document the parties' mutual understandings and agreements regarding the disclosure and use of certain personally identifiable information (PII) within Wyoming school district student information systems for the purpose of developing and maintaining the Wy-Fi dashboards. The MOU between the WDE and the district includes items such as points of contact, ownership of PII, penalties for inappropriate disclosure, and restrictions against linkages with other datasets.

MEASURES OF SUCCESS

Wy-Fi has the following measures of success:
- Launched in October 2017, 17 districts currently use the dashboards.
- Integrated historical assessment data.
- Supported the integration of growth data.
- Presented growth visualizations integrated with other data.

Increased Online Courses

VIRTUAL EDUCATION LEGISLATION IMPLEMENTATION

The statutory changes to virtual education passed during the 2017 legislative session through **Senate Enrolled Act 57**. This act required formal rules revisions and comprehensive policy updates to implement the new requirements during the 2017-18 school year. The changes to virtual education laws and rules were based on improving and increasing access to virtual learning opportunities for Wyoming students originally recommended by the 2015 Distance Education Task Force.

The Virtual Education Advisory Committee (VEAC) was established, including Wyoming school districts, virtual education program leads, legislators, and the Wyoming Professional Teaching Standards Board. The VEAC members assisted in the development of a new methodology for calculating average daily membership (ADM) for virtual education classes and to create emergency and regular rules revisions.

The revisions to the rules and regulations were accomplished over a seven-month period and included input from school districts and continuous advisement from the VEAC. More accurate definitions and terminology for the distance learning opportunities happening in the state were included in the rules revisions, along with the ADM participation requirements. The regular Chapter 41 Virtual Education Rules were promulgated on April 24, 2018, and are in full effect.

To help districts with implementing the new legislation and rules, a new role of Virtual Education Coordinator was assigned by each Wyoming school district. The responsibilities of the role include being aware of the virtual education statutes and rules, opportunities available for students, and reporting responsibilities including virtual education participation used to report ADM. The Virtual Education Coordinator is expected to share and disseminate information across the school district with staff, students, and families as relevant.

One of the broad changes to the virtual education laws included the removal of the requirement that teachers of distance classes be employed by the school district providing the class. The removal of this requirement opened the opportunity for districts to purchase classes from out-of-state vendors who employ the virtual education teacher. Because all teachers of Wyoming virtual education classes must be

state-certified, it was necessary to develop a new data collection to record the teachers employed outside of the school district. The WDE728 Virtual Education Vendor Teacher Collection was implemented in December 2017 and each district was required to respond to the report.

In collaboration with VEAC, the WDE also developed a process for school districts to submit any concerns they have with virtual education programming. When VEAC reviews concerns, they may advise districts and make recommendations to the WDE to develop or revise policy, rules or legislation. By providing a process for VEAC to review and respond to school district virtual education program concerns and make recommendations, the WDE hopes to reduce barriers to opportunities for students by addressing issues as soon as they arise rather than the process taking years to reach legislators or parties who can help.

MEASURES OF SUCCESS

The measures of success of the virtual education legislation implementation include:
- Monthly VEAC meetings convened.
- Established the role of Virtual Education Coordinator for each school district.
- The Chapter 41 Virtual Education Rules revisions promulgated in April 2018.
- Sixteen districts have virtual education programs.
- Created a process for vetting concerns to the VEAC.
- The spring 2017-18 full-time student enrollments in virtual education classes was 999.
- The spring 2017-18 part-time student enrollments in virtual education classes was 57.

STATEWIDE LEARNING MANAGEMENT SYSTEM

The requirement for a statewide LMS was established in the 2017 legislative session with Senate Enrolled Act 57. The WDE, UW, and five of the seven community colleges have been partnering to deploy this initiative statewide. The K-20 statewide LMS project is now in the implementation and training phase. UW has been using Canvas since 2013 and has been helping the other partners by sharing best practices and lessons learned during this implementation phase. The community colleges are working on implementing and training their staff as well.

In addition to the statewide LMS gaining traction in the districts, it is also being implemented at the state level. The WDE has started training and creating professional development opportunities for all districts regardless if they are Canvas users or not. Canvas will also be used as the platform for all training resources provided by the Friday Institute for Educational Innovation, a professional development program geared towards providing district administrators with training materials and resources needed to increase personalized learning in their schools.

Park County School District #1 was using Canvas prior to the statewide contract. They were paying around $9.70 per user, and by opting into the statewide LMS contract they are now only paying $3.74 per user, a cost savings of almost $6 per user.

MEASURES OF SUCCESS

The measures of success of the Statewide LMS include:
- 25 school districts have signed on to Canvas.
- Canvas training statewide.
- Cost savings for districts using Canvas.
- Districts offering courses to students outside their district.

VIRTUAL EDUCATION CATALOG

The WDE upgraded the virtual education course catalog website that was formerly known as the Wyoming Switchboard Network. The site revisions and upgrades included a revamp of the online course database and website layout as well as the addition of new interactive site features. Eighteen months were spent in the site development process which included collecting feedback and input from focus groups and VEAC. The revamp process also included rebranding Wyoming's virtual education network of K-12 programs and classes as Virtual 307.

The **Virtual 307** site provides an online, searchable catalog of all K-12 virtual education courses offered by Wyoming school district programs, including tuition costs for single course offerings. Details regarding each of the approved school district virtual education programs, including grade levels served and types of programs available, can be located on the site's **Programs page**. Virtual 307 also includes features to assist counselors, principals, institutional staff, students, and parents in not only locating online course and program options but to make registration requests.

Another interactive feature on the Virtual 307 site is the Class Interest Survey tool which allows districts to request classes that aren't currently available that they would like to either develop or deliver. Other districts can post responses to the course request such as the number of students in their district who might take the class or that they can aid in developing the course. The number of potential students interested is updated each time a district updates that information allowing for a real-time tally of the interest level.

MEASURES OF SUCCESS

The measures of success of the Virtual Education Catalog include:
- Virtual 307 brand and site development completed and including input from focus groups and VEAC.
- All 16 of the 2017-18 virtual education programs submitted program information, course lists, and syllabi.
- Virtual 307 website was soft launched in June of 2018.
- Policy information and forms, including virtual education application and course submission process posted to the Virtual 307 site.

Computer Science Education

There has been tremendous momentum on advancing computer science education throughout all districts in 2017-18. The Computer Science (CS) Education Task Force made recommendations that ultimately became statute. More districts than ever participated in the Hour of Code in December. This year, 39 high school student teams across the state competed in the Girls Go Cyberstart competition. The team from Johnson County School District #1 took first place in the state and placed 47th nationally.

COMPUTER SCIENCE EDUCATION TASK FORCE

To achieve the goal of increasing access to computer science education throughout Wyoming's education system, it will take support from several partners. The WDE formed a task force in July 2017, focused on developing a roadmap, milestones, and timeline towards achieving the goals set forth by the Joint Education Interim Committee.

The CS Education Task Force met to develop the Wyoming Roadmap for CS Education, which include guiding principles, milestones, timelines, and goals to address the three goals identified by the legislature's Joint Education Interim Committee in June 2017.

The Task Force recommended the following statutory changes:
- Incorporate computational thinking/computer science into the state "basket of goods," officially known as the common core of knowledge and skills (W.S. 21-9-101(b)).
- Allow computer science to count toward high school graduation requirements (W.S. 21-2-304(a)(iii)). It is already incorporated into Hathaway Scholarship requirements.
- Request the State Board of Education to promulgate computer science standards either as stand alone or integrated across the current content standards.
- Temporarily limit the Wyoming Education Trust Fund Grant (W.S. 21-22-106) of approximately $250,000 annually to professional development for computer science teaching.

Moving forward, the CS Task Force will work in three subcommittees: Professional Development and K-12 District Supports, Grants/Funding Opportunities, and Building the CS Workforce Pipeline.

"Computer science is a critical skill set that all students need to build, starting from an early age. It is important today and even more important tomorrow. I am so excited for Wyoming's students, who will have the opportunity to learn computer science at all grade levels."

- State Supreintendent Jillian Balow

MEASURES OF SUCCESS

The CS Education Task Force brought the following measures of success:
Creation of recommendations to the legislature on improving CS opportunities in Wyoming
- Increasing knowledge of district needs to offer computer science
- Legislature adoption of computer science recommendations

COMPUTER SCIENCE LEGISLATION

2018 Senate Enrolled Act 48 was signed into law on March 14, 2018, making CS a content area required to be taught by all school districts by the 2022-2023 school year, replacing applied technology. The State Board of Education is required to develop and promulgate computer science content standards by January 2022. The bill also placed computational thinking in the common core of skills which will require school districts to integrate computational thinking into all K-12 courses. For students, CS may count toward one year of science for graduation requirements and CS may be counted toward one year of math or science requirements for the Hathaway Scholarship Program. As a result of the CS legislation, the WDE launched Boot Up Wyoming 2022, an initiative to support districts in implementing computer science in all Wyoming schools and meeting all legislative requirements.

In addition, Senate Enrolled Act 48 requires the WDE to conduct a study to determine what it will cost for all school districts to offer computer science. WDE staff visited every school district in the state prior to September 1, 2018 to provide information and develop a better understanding of how districts are currently or planning on implementing computer science, along with the challenges they face.

The Wyoming Professional Teaching Standards Board (PTSB) has been working with the WDE to develop an exception authorization pathway to allow districts to find or train teachers in how to teacher computer science.

MEASURES OF SUCCESS

The launch of Boot Up Wyoming brought the following measures of success:
- Branding of the initiative to raise awareness.
- The **WDE webpage** was created to provide districts with more up-to-date information.
- PTSB's computing technology exception authorization was implemented to help current teachers be able to teach computer science courses.
- As of July 1, 2018, WDE has visited 27 school districts to discuss computer science implementation and associated costs.

GOVERNORS FOR COMPUTER SCIENCE

The Governor's Partnership for K-12 Computer Science, also known as Govs for CS, is a code.org led initiative uniting a group of bipartisan state leaders committed to advancing policy and funding to expand access to and increase equity in K-12 Computer Science education. Governor Matt Mead took the Govs for CS pledge on December 4, 2017, and committed Wyoming to making CS a priority for schools across Wyoming.

"Students are eager to acquire computing skills. Parents want their children to know and understand computer science. Employers need workers who are able to put this knowledge to work. By joining this partnership, we send a signal that Wyoming puts a priority on assuring our students have the knowledge and skills they need to contribute to our growing economy."

-Governor Matt Mead

Governor Mead joined fellow governors in making a commitment to implementing policies that:
- Enable all high schools to offer at least one rigorous computer science course.
- Fund professional learning opportunities for delivering computer science courses.
- Create high quality academic K-12 computer science standards.

MEASURES OF SUCCESS

In conjunction with signing onto the Governors for CS, the following progress has been made toward meeting its ambitious goals:
- Signing of 2018 Enrolled Act 0048 requiring K-12 CS education.
- $300,000 provided to districts to offer CS professional development.
- CS standards development has begun.
- All schools will offer CS and computational thinking by 2022-23.

CODERS OF THE WEST

Coders of the West included a pilot program launched during the 2016-17 school year to create computer science internships for students. The goal of the Coders of the West program is to provide students with work-based experiences that allow students to explore career opportunities, acquire the knowledge/skills needed to be successful in those careers, and to connect academic knowledge with "real world" application.

In the 2017-18 school year, the WDE and Gannett Peak Technology Services moved into Phase II of the Coders of the West program. Phase II started by students taking an online introduction to CS. This course was provided by Park County School District #1 to give students the basics of CS so they are more prepared for the internship. Two students were placed in internships this year. In Phase II, each student was placed in a separate business to work on actual projects for that company.

Moving forward with Coders of the West, the WDE looks to expand the number of internship opportunities available to students. This will require recruiting more businesses and more students to participate in the program. In addition, the WDE looks to have businesses mentor student in the Coders of the West program throughout their computer science course to better prepare them for the projects they will be working on in their internships.

MEASURES OF SUCCESS

Coders of the West had the following measures of success:
- Successful completion by students of an introductory computer science course.
- Two interns placed in different locations.
- First successful internship conducted virtually.
- Two companies with interns worked on real computer science projects.

HOUR OF CODE

The Hour of Code is a global movement that reaches students in more than 180 countries with a focus of expanding access to computer science and coding lessons. The WDE encourages Wyoming school districts to organize an Hour of Code event during Computer Science Education Week in the first week of December of each year, but an Hour of Code event can be organized by anyone, anywhere, and at any time of the year.

In 2017, there were 201 registered Hour of Code events in Wyoming. This is an increase from just 22 statewide registered events in 2015 and 136 registered events in 2016. In addition to school participation in the event, WDE staff also participated in Hour of Code by dedicating one uninterrupted hour of the workday in a coding activity offered by Array School of Technology and Design.

The WDE partnered with Williams to offer Wyoming school districts achieving 100 percent participation of students in Hour of Code events a $500 cash award. With the support from Williams, the WDE was able to award five schools in four districts with cash awards toward purchasing additional equipment for their schools. Recipients of the award were: Weston County School District #7, Teton County School District #1, Laramie County School District #1, and Big Horn County School District #3. After the success of the program in 2017, Williams has already dedicated funds to award to Wyoming schools in 2018 to continue to support CS in the state.

MEASURES OF SUCCESS

The 2017 Hour of Code event had the following measures of success:
- Partnerships formed with Wyoming industry to provide awards to schools.
- Gave five $500 cash awards to five schools to purchase devices or technology.
- Growth in participation from 22 events in 2015 to 201 events in 2018.
- Governor Mead declaring December 4-10, 2017, Computer Science Education Week.

Professional Development

STATEWIDE PROFESSIONAL LEARNING COMMUNITIES

The WDE hosts 17 statewide professional learning communities (PLCs). These PLCs are designed to connect educators with all 10 content areas and other key education topics. These PLCs are housed within the **Edmodo** platform, allowing teachers, coaches, and facilitators to ask questions, share information and resources. The platform is provided as a service where teaching professionals can share and learn from each other. For more information or to join a PLC visit the **WDE Standards webpage**.

MEASURES OF SUCCESS

The measures of success for Edmodo are listed as the number of educators currently using these PLCs:

SUBJECT	NUMBER OF PLC USERS
English/Language Arts	125
Mathematics	111
Health	15
Science	177
Social Studies	59
Computer Science	15 (new this year)
Career & Voc Ed	49
Foreign Language	45
Physical Education	29
Fine & Performing Arts	41
English Learners	43
STEM Ed	108
WY Administrators	14
Library	21

STATEWIDE LMS TRAINING

As part of the K-20 Statewide LMS implementation plan, the WDE offered in-person Canvas training in Casper, Basin, Pinedale, Shoshoni, and Lovell, as well as a training for WDE staff in the Spring of 2018 at the agency. Through the summer and fall of 2018, the WDE plans to have more trainings, including those scheduled in Rock Springs, Powell, Glenrock, Basin, Lovell, Torrington, and Evanston. In addition to the in-person trainings, the WDE has purchased unlimited online Canvas trainings. This subscription-based training gives users access to live webinar trainings as well as additional training modules, and PTSB credit is available for educators who complete seven hours of Canvas training.

MEASURES OF SUCCESS

The Canvas trainings had the following measures of success:
- Offered six in-person trainings across the state.
- Trained about 275 educators across the state.
- Training for WDE staff.
- Trainings adjusted for specific needs of the audience.

WYOMING INNOVATIONS IN LEARNING

The inaugural Wyoming Innovations in Learning conference took place on November 2-3, 2017 in Laramie. This conference was developed through a partnership with the WDE, all postsecondary institutions in the state, and the Wyoming State Library. These partners came together in order to leverage resources and offer an innovative learning conference to a K-20 audience. Session topics at the conference included OERs, innovations in teaching, digital learning, student learning assessment, online and blended learning, educational technology tools, and using an LMS. This conference has contributed to the Community Partnership goals for the DLP to help coordinate the opportunity for these institutions to learn from each other and leverage resources together as a combined K-20 group.

The second-annual Wyoming Innovations in Learning conference will be held in Evanston on Nov. 7-9, 2018. This conference will continue to strengthen the partnerships and alignment between K-12 and higher education. The 2018 Innovations conference will add additional elements, including an Innovations Showcase, featuring new and innovative ideas and projects throughout the state of Wyoming. This Innovations Showcase is a chance for the K-20 education system to feature innovation happening at their school/institution.

MEASURES OF SUCCESS

The 2017 Wyoming Innovations in Learning conference had the following measures of success:
- Approximately 200 participants from across Wyoming attended
- Provided an opportunity for attendees to build relationships statewide
- Extensive partnership between WDE, higher education, and Wyoming State Library
- Helped institutions save money. For example, the University of Wyoming saw an immediate savings of $18,000 by not holding their own separate conference.

FUTURE READY WYOMING

The WDE announced the launch of the statewide Future Ready Wyoming initiative in September of 2016. In taking part in this effort, Wyoming joined a cohort of 17 states dedicated to preparing students for success in college, career, and citizenship through personalized student learning. Wyoming-specific Future Ready Wyoming trainings began in March 2018 with a Future Ready Wyoming Administrator training conducted on March 27, 2018 in Cheyenne.

The goal of the state in becoming Future Ready was to provide additional personalized learning opportunities and improve the overall educational experience for all students.

The benefits of becoming a Future Ready state include free access to tools and resources that assist district leadership teams plan systematically to use technology more effectively to engage students, empower teachers, and improve overall learning outcomes. Current Future Ready States include: California, Indiana, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Missouri, New Hampshire, New Mexico, Utah, Vermont, West Virginia, and Wisconsin. Additional information can be found at **futureready.org**.

MEASURES OF SUCCESS

Future Ready Wyoming has had the following measures of success:
- 15 Wyoming school districts took the Future Ready Pledge.
- 12 districts participated in the first Future Ready Wyoming training.

FUTURE READY DISTRICTS

Big Horn County School District #1
Fremont County School District #1
Fremont County School District #2
Fremont County School District #24
Fremont County School District #25
Fremont County School District #38
Niobrara County School District #1
Park County School District #1
Park County School District #16
Platte County School District #1
Sublette County School District #1
Teton County School District #1
Uinta County School District #1
Weston County School District #1
Weston County School District #7

WYOMING TECHNOLOGY DIRECTORS SUPPORT

The Wyoming technology (tech) directors are essential to the Digital Learning Plan, and are involved in the majority of initiatives within this report. In the past, the WDE and tech directors did not have an effective working relationship, and in an effort to repair these relationships, the WDE has implemented several practices to strengthen communication, grow cooperation, and promote collaboration.

WY TECH DIRECTOR LISTSERV

The first action was to create collaborative opportunities, such as a Wyoming Tech Director Listserv, which allows all tech directors to be included in emails without having to remember to add each district individually. In addition, the WDE created a Workplace forum, a collaborative platform hosted by Facebook. Workplace was selected as neutral ground between the Google and Microsoft Office users, and is a forum for tech directors and WDE to create teamwork opportunities, and provide an open line of communication among members.

MONTHLY TECH DIRECTOR TELECONFERENCE MEETINGS

The WDE now hosts monthly virtual meetings for tech directors. The first hour of the meeting allows for guest presentations, and the remaining time is reserved for the WDE Information Management team and the tech directors to address pertinent issues. The last segment of the meeting allows for tech directors to work together directly on any issues that they may be experiencing, without the meeting guests listening to the conversation, encouraging candid dialog.

ANNUAL TECH DIRECTOR CONFERENCE

The WDE also hosts annual Wyoming District Technology Director Conferences at various Wyoming sites across the state. The Wyoming District Tech Director Conference was designed to bring all tech directors together to help build relationships between districts as well as between districts and the WDE. Participant surveys are employed prior to the conference for input on topics and concerns to be addressed at the conference. Guest speakers, presenters, and technology-related vendors are invited. Historically, past conferences have been well attended. In addition, conferences are live-streamed for those who were unable to attend in person. Eventually, the WDE aims to grow participation to include every district.

TECH DIRECTOR WORKSHOP AND TECH HUBS

A tech director workshop session is a brand new addition to the annual Wyoming Innovations in Learning conference. This one-day session provides another opportunity for tech directors to discuss relevant issues and solutions with colleagues.

The WDE's Information Management Team director hosts scheduled 'Tech Hubs' (in seven regional locations - three to four times per year), to bring tech directors together to collaborate on technical issues.

MEASURES OF SUCCESS

The following are measures of success with Technology Director Support from a survey from November 2017 in which 30 of 48 Tech Directors responded:
- 90 percent responded that the listserv emails were of value.
- 70 percent said they valued the Workplace platform.
- 73 percent highly valued the Tech Hubs.
- 63 percent valued the monthly tech director virtual meetings.
- 44 percent valued the tech director workshop.
- 73 percent highly valued the tech director conference.

COMPUTER SCIENCE WEBINARS

The WDE conducted a series of informational webinars geared toward the creation and development of computer science programs throughout Wyoming. These webinars occurred on the first and third Wednesdays of each month from January to June in 2018. All webinars were two hours in duration, with the first hour featuring an industry partner and the last hour highlighting the computer science initiatives of Wyoming school districts.

MEASURES OF SUCCESS

- 298 Wyoming educators participated in the webinar series.
- 21 partners participated as presenters during the series.

HIGHLIGHTS OF WEBINAR PRESENTERS INCLUDE:
- Sean Wybrant, 2017 Colorado Teacher of the Year (computer science educator)
- University of Wyoming RAMPED program
- University of Wyoming Cybersecurity Education And Research (CEDAR) Center
- Western Wyoming Community College
- Sheridan County School District #2 and Sheridan Community College
- Park County School District #1
- Laramie County School District #1
- Platte County School District #1
- Black Butte High School, Sweetwater County School District #1
- Microsoft's Technology Education and Literacy in Schools (TEALs)
- National Center for Atmospheric Research (NCAR)
- ESRI

QUALITY MATTERS WORKSHOPS AND COURSES

In an effort to provide quality virtual courses and materials, the WDE has partnered with Quality Matters (QM) to provide a statewide K-12 consortium membership which makes the QM trainings and resources available to all Wyoming educators. The QM trainings prepare educators to become certified course reviewers and the online K-12 QM rubric and tools enable them to conduct reviews for online courses across the state. QM offers a number of face-to-face, online, and webinar workshops to help educators use the QM program tools, including the QM Course Review Management System, to develop and improve online and blended courses.

As part of the efforts to meet the Wyo. Stat. §21-2-202(a)(xxxi)(B) requirements to provide training and professional development for teachers related to the delivery and instruction of virtual education, the WDE sponsors QM workshops and online classes as requested by school districts and educators. School districts with virtual education programs or an interest in developing and delivering online content agree to host the in-person trainings and invite educators from districts within the area to participate. Five school districts hosted QM workshops and educators from two school districts completed online QM courses during the 2017-18 school year.

Chris Voelker, K-12 QM director, presented a session at the 2017 Innovations in Learning Conference and provided informational materials to conference participants. Additionally, since Innovations in Learning is a K-20 conference, when the postsecondary community learned of the statewide K-12 QM consortium through the information Voelker shared, they became interested in pursuing a K-20 consortium membership. Each of the seven Wyoming community colleges have worked with the QM course review tools and at least five of the colleges have had individual institution memberships. A K-20 agreement would provide a cost savings of approximately $3,000-$5,000 a year for each organization depending on the level of participation at the institution. A K-20 consortium membership also facilitates opportunities for the spectrum of institutions to collaborate in course reviews statewide and increase high-quality online learning options for students across the state.

Training is also available for local educators to become QM certified trainers and provide the K-12 Applying the QM Secondary Rubric workshop, building the statewide capacity to train educators across the state to build high-quality online courses. The QM Teaching Online Certificate is also available to educators which enables them to demonstrate their knowledge mastery of online teaching. So far, no Wyoming educators have attended these trainings but a recruitment plan for these opportunities will be developed during the 2018-19 school year.

MEASURES OF SUCCESS

The Quality Matters Workshops have had the following measures of success:
- Provided five in-person workshops to 65 educators from seven school districts.
- Seven educators completed the Applying the QM Rubric online course.
- Five educators completed the QM Reviewer course online.
- One educator completed the QM Research webinar.
- Initiation of pursuing a K-20 QM consortium membership.

DATA RETREATS

Schools identified as not meeting expectations in the Wyoming Accountability in Education Act (WAEA) School Performance Report (SPR) for at least two of the past three years were invited to participate in a WDE-led data retreat. These workshops are two days in length, and lead schools through a reading of their SPR, associated underlying state assessment data, and provide a method to review local data. At the conclusion of the two days, schools conduct a root-cause analysis for one specific issue that was highlighted over the course of the two days. That root cause then becomes the basis for the school improvement plan for the upcoming school year.

The process has been well received, with feedback being provided such as, "This was the best professional development I have had from the WDE." Participants have an understanding at the end of the two days how to be able to conduct their own root-cause analysis on other issues that might be facing the school.

In 2018, the data retreats were held in Rock Springs, Riverton, and Cheyenne. At the Cheyenne location, the shift was made to using Canvas as the platform for delivering the content. This platform showed promise and is being considered as the platform for future retreats.

MEASURES OF SUCCESS

The measures of successes of the Data Retreats include:
- 32 schools participated in the data retreats.
- Increased district data-driven decision capacity.
- Used Canvas in providing data for retreats.

LEADERSHIP IN BLENDED AND DIGITAL LEARNING

The Friday Institute for Educational Innovation, in partnership with the North Carolina Principals and Assistant Principals Association (NCPAPA), developed the Leadership in Blended and Digital Learning (LBDL) workshop as an innovative, capacity-building approach to preparing principals to lead a successful transition to blended and digital learning in their schools. This professional development offered is a research-based, job-embedded digital leadership course for principals which includes facilitator and leadership team training customized to local needs for cohorts of principals over a two-year period, a technology platform to provide a blended learning experience for participants, and ongoing support with data evaluation and tools. A team of educators and administrators from four Wyoming school districts was created to form the first LBDL Wyoming educator cohort with the overall goal to create and implement blended learning programs within their schools.

Through a partnership established between the WDE, the Utah Education Network (UEN) and the Utah Department of Education, this first Wyoming cohort was able to attend a Utah LBDL training on January 22-26, 2018 in Salt Lake City. The training was provided at no cost to the districts, as all travel costs for attendees were paid by the WDE and all registration fees were waived by UEN and the Friday Institute. This cohort has now formed a statewide blended learning PLC and will act as coaches and mentors for the second cohort that will receive Wyoming-specific Friday Institute Leadership in Blended and Digital Learning training in September of 2018. Through this work, the WDE will have provided the opportunity for educators to increase blended and digital learning in schools across Wyoming as well as established a statewide network of educational leaders to guide the transition to blended and personalized learning.

MEASURES OF SUCCESS

The success of this professional development opportunity was measured by:
- Four districts created blended learning programs in schools.
- 12 educational professionals received LBDL training.
- Creation of the first LBDL cohort.
- Established partnerships between the Utah Department of Education and the WDE.
- Created first statewide PLC dedicated to blended learning.
- Cost savings for districts to attend LBDL training.

Extended Professional Learning Opportunities

DO YOU WANT TO THINK LIKE A COMPUTER SCIENTIST?

Computer Science events, titled *Do You Want To Think Like A Computer Scientist?* were conducted throughout Wyoming during the 2017-18 school year and focused on introducing students to computer science and computational thinking. These two-to-three hour events were hosted by Wyoming public school districts. These events were geared toward promoting computer science within communities and included events such as coding, computer simulations, unplugged activities, virtual reality, and Makey-Makey® STEM kits. At check-in and registration, students were given a group color and rotate between stations every 15 to 20 minutes based on their group. Administrators, parents, teachers, and students were encouraged to take part. During the 2017-18 school year, 17 districts hosted *Do You Want To Think Like A Computer Scientist?* events.

CODE.ORG – COMPUTER SCIENCE FUNDAMENTALS

Code.org CS Fundamentals Trainings have been conducted by James Kapptie, a former classroom teacher and educator for over 18 years. During the school year 2017-18, Kapptie trained 413 teachers in both Wyoming and Montana. The goal and purpose of the **CS Fundamentals Training** is to provide educators with the knowledge and resources needed to offer Computer Science courses to elementary level students. The CS Fundamentals courses provide educators with 15 lessons that can be implemented as one unit or over the course of a semester. In these lessons, students create computer programs that allow them to learn how to collaborate with others, develop problem-solving skills, and persist through difficult tasks.

Through a partnership with Western Wyoming Community College, Code.org, and Google, Kapptie has been able to travel to various locations around the state to offer training to teachers and increase computer science learning opportunities for students. Kapptie has provided training in Arapahoe, Casper, Cody, Cheyenne, Gillette, Kaycee, Laramie, Pinedale, Riverton, Rock Springs, Saratoga, Torrington, and Thermopolis.

CODE.ORG–TEACHERS TEACHING TECH

Teachers Teaching Tech (T3) is Code.org's regional partner for Wyoming. T3 offers computer science professional development for K-12 educators to develop skills, share expertise, and foster a community around computer science. As of July 2018, T3 has trained more than 75 middle (**Computer Science Discoveries**) and high school (**AP Computer Science Principles**) teachers in Phoenix at **TeacherCon**. In addition, they will train approximately 300 elementary teachers throughout Wyoming on-site in Computer Science during the 2018-19 school year.

In addition to the TeacherCon, T3 will provide a free five-day training for middle and high school teachers that will cover the first nine weeks of their computer science curriculum. This training will be extended into two follow-up weekend workshops during the school year. The large geographic challenges of Wyoming as a rural state creates barriers for teachers attending in-person professional development, and to combat these challenges, T3 is developing online training opportunities to better meet the needs of teachers in 2018-19. The online offerings are being developed by staff and teachers trained in T3. By providing equitable access to computer science education for rural teachers, T3 is expanding and improving CS opportunities for Wyoming's youth.

WYOCSZONE

WyoCSZone is a non-profit community of Wyoming teachers dedicated to expanding access to Computer Science to fellow teachers and students in the state. WyoCSZone acts as a bridge for teachers, students and communities to increase knowledge of and gain confidence in the CS skills which will be necessary for success in the changing workforce.

The most important elements of each of the WyoCSZone initiatives are the partnerships created between Wyoming communities and national institutions, corporations, and businesses. Through these connections, Wyoming has been able to provide a range of programs, events, and resources specifically geared towards CS education.

## WYOMING TECHNOLOGY-CURRICULUM-ENGAGEMENT CONNECTION (WYTECC)

WyTECC hosted its seventh-annual conference on May 5, 2018, in Green River at the Western Wyoming Community College campus with the theme of Tinkers & Thinkers. The conference consisted of a variety of STEM-based workshops that can be utilized in a variety of settings with students. Sessions included using Makey Makey® STEM kits to to teach circuits, literacy with STEM, augmented reality, escape room: classroom edition, Google Classroom, Code.org, and more.

Innovative Educators Recognition

K–12 DIGITAL LEARNING INNOVATIONS AWARDS

The K–12 Digital Learning Innovations Awards were created in 2017 to honor leaders and educators who create cultures of innovation and forward-thinking through effective uses of digital, 21st-century technologies to engage students while empowering them in owning their learning. The inaugural awards had three categories: Education Leader, District Leader, and Program Leader. The WDE was able to honor a winner in each category at the 2017 Wyoming Innovations in Learning conference.
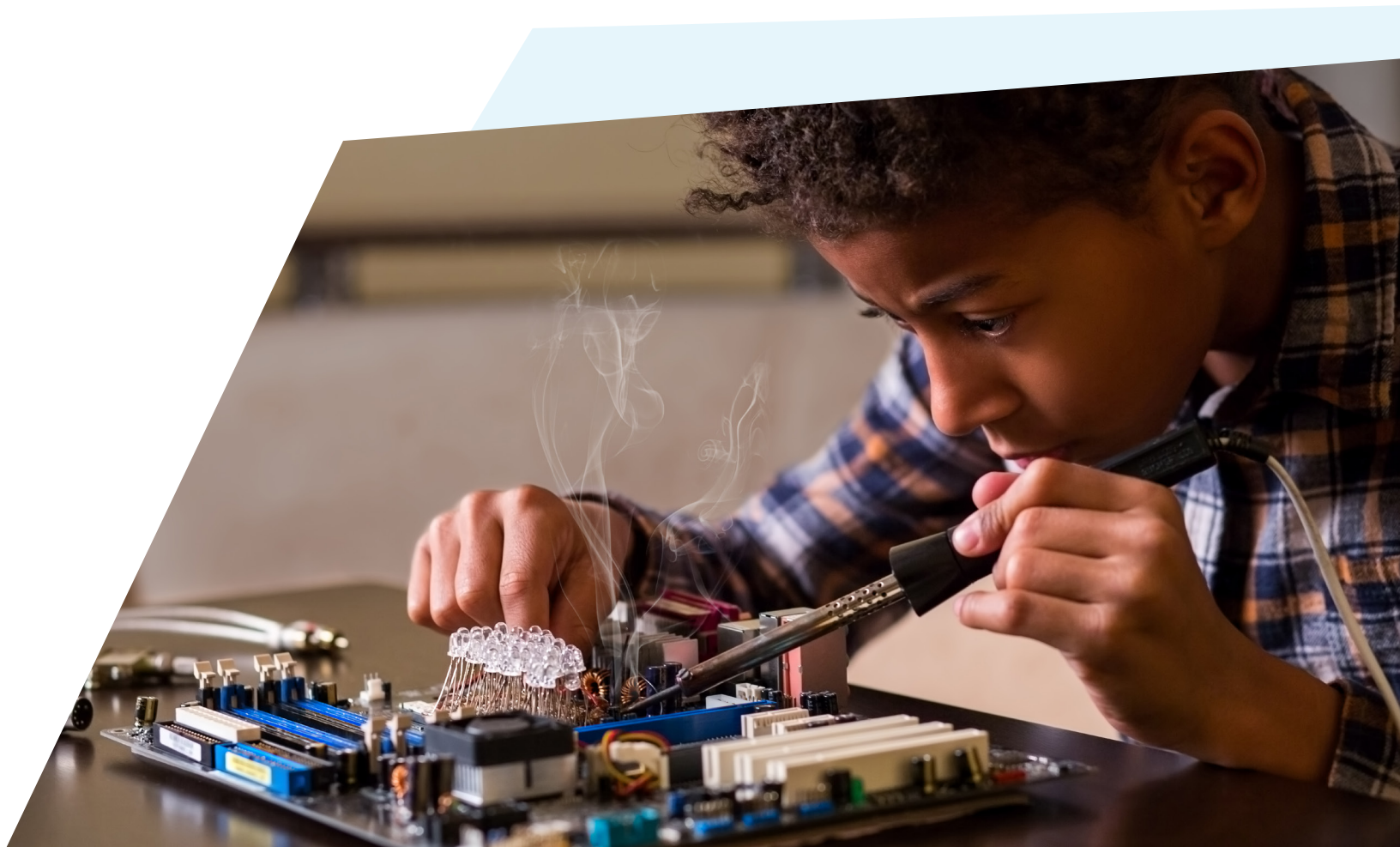
JULIE WEITZ, SHERIDAN JUNIOR HIGH SCHOOL

Education Leader winner: Julie Weitz was selected for her work reinventing the way that the library functions at Sheridan Junior High. One of the many things that Weitz was nominated for was her work with students to create video book talks or reviews so that other students could decide if they wanted to read that book.

CAMERON KUKUCHKA, JOHNSON COUNTY SCHOOL DISTRICT #1

District Leader winner: Cameron Kukuchka was selected for his work partnering with local and state officials to create access to innovative digital learning opportunities for students. In part of this work, Kukuchka created five internships to teach students about the inner workings of Chromebooks, iPads, PCs, configuring servers, and networking.

ERIN MOORE, GANNETT PEAK TECHNICAL SERVICES

Program Leader winner: Erin Moore was selected for her work with the Coders of the West internship program. Moore advocated and advanced student learning in computer science and gave students an avenue to connect learning in computer science through internships. Students learned about different components of software development from working with clients to define customer requirements, learning about frontend and backend development, cloud hosting, and GIS.

In order to build on the success of the 2017 awards, the Innovative Classroom Award has been added for 2018. This award was created to recognize work around personalized collaborative learning done by teachers and students. Innovative Classroom Award winners, including both teachers and students, will be invited and honored at the 2018 Wyoming Innovations in Learning Award Dinner.

MEASURES OF SUCCESS

The 2017 K-12 Digital Learning Awards had the following measures of success:

- Selected the inaugural award winner from a pool of fifteen nominations.
- Recognized the innovative work that is happening around the state of Wyoming.
- Created an Educator Awards webpage on the WDE website.

Lessons Learned & Promising Practices

LESSON 1: INCREASE THE USE OF DIGITAL LEARNING ADVISORY PANEL EXPERTISE

The Digital Learning Advisory Panel (DLAP) has been instrumental in the development and goals outlined in the Digital Learning Plan. Members of the DLAP are included on many of the committees for the projects discussed above. However, the WDE has not been proactive in asking the DLAP members to be more involved with the implementation of the Digital Learning Plan after the goals were developed. Moving forward, the WDE will work to more actively engage the DLAP and ask the members to take leadership in planning and prioritizing the Digital Learning Plan initiatives. There is a need for the DLAP to help launch initiatives to increase their initial success. The DLAP is a valuable group of highly experienced and knowledgeable educators and any education endeavours undertaken across Wyoming would benefit from leveraging their expertise.

LESSON 2: COLLABORATE WITH POSTSECONDARY AND WORKFORCE RELATED ASSOCIATIONS

This year, computer science became one of the larger projects within the WDE. With this work, it became apparent that in order to know which direction to take K-12 computer science education, the WDE needed to have postsecondary and industry representation involved in decision-making. To understand what needs to be taught in K-12, it is imperative to know what is needed at the industry level and what is being taught at the postsecondary level. This work showed that it is more important than ever to build the workforce pipeline, and to accomplish this, significant communication between K-12, postsecondary, industry, and workforce is needed to ensure alignment across the system.

Knowing the value and importance to collaborate across the spectrum, the WDE will continue to seek partnerships and involvement from postsecondary institutions, other organizations and industry wherever possible to implement the Digital Learning Plan initiatives. Current projects in which postsecondary and other institutions have provided invaluable partnerships include micro credentialing and badging for educator credentials, Open Range Wyoming, and the Wyoming Innovations in Learning Conference. As new initiatives are considered and developed, an analysis of which partners would be best to include for the benefit of reaching the intended goals will be included in the implementation plans.

LESSON 3: BALANCING THE NUMBER OF COLLABORATIVE INITIATIVES

As shown throughout this report, there are a great number of large projects and committee work happening across the state. The WDE has found that those who work with and understand digital learning are the best people to be involved in this work; however, the WDE has been asking the same people to serve on multiple committees or initiatives due to their expertise. One of the lessons learned is to be cautious of overloading and asking too much from those participating in multiple initiatives. While all of these participants have agreed to participate on multiple projects, they also have full-time jobs that limit their availability.

Moving forward, the WDE will continue to involve key stakeholders and partners. However, expectations will be made clear in terms of the projected meeting, work, and time commitments involved. Participants will then have a better understanding of what will be asked of them and can decide if they have time to commit to a particular committee or initiative. The WDE values everyone who is able to give their time, opinions, and real-life examples and wants to respect their schedules and time investments.

Promising Practices

Innovation is thriving throughout Wyoming. Listed below are a few ways that innovative practices are being used in Wyoming school districts:

Big Horn County School District #2

Big Horn County School District #2 received the Wyoming Education Trust Fund Grant in August of 2017 for the creation of a tiny house to be designed, planned, and constructed by high school students in the district. This project, which involved nearly 25 percent of the student body, allowed students across content all content areas to research, plan, and design the tiny house, all the while collaborating with industry professionals to better prepare them for the workforce. Upon completion of the award year, the tiny house described in the initial proposal was at 90 percent completion and the district reported being successful on three of the four goals initially identified in the grant proposal, as well as having numerous offers from community members to purchase the tiny house when completed and ready for sale. Through this partnership nearly 50 students received Occupational Safety and Health Administration (OSHA) 10 certification, which is a certification that teaches people about safety and health hazards in the workplace, and it will benefit students throughout their future careers.

Campbell County School District #1

Maggie Unterseher is a talented and dedicated librarian from Meadowlark and Pronghorn Elementary Schools in Gillette. Unterseher integrates learning that is done in the general classroom in with her library's curriculum. Unterseher participates in planning days that allow her to not only share ideas she plans to do with students, but to hear what content general education teachers are planning to deploy in their lessons. In numerous instances, Unterseher helped the general education classroom with content by bringing the lesson to life in the library. She also collaborates closely with the technology teaching staff to bring to life a world of possibility and exploration for all. Unterseher is an innovator in that she is continually seeking new ways to use technology, and she brings news stories to life by getting students to talk about current events and headlines that are in the news. She gets students excited about new books by giving them a preview using technology, and she also gives students the autonomy to decide what they want to learn about, what they want to explore, and what tools they need to be successful.

Campbell County School District #1

Stacey Dickson, a teacher at Conestoga Elementary, embodies all that is wonderful and necessary for all students. Her digital lessons been used by students at all grade levels as she is the technology instructor for the building and sees all K-6 classes in the building for technology lessons. She also helps facilitate the 1:1 iPad classrooms in the building, of which Conestoga Elementary has 15 of 21 1:1 classrooms. Dickson also works to discover appropriate apps and programs for the teachers in our building to use with this technology. The school received a STEM lab grant last January, and the K-6 students come into the STEM to learn to read technical instructions as they work through the various stations and programs. The lab has two 3D printers which are used with the TinkerCad program. Osmo, Ozobots, Lego kits and more are being used to teach varied concepts in math, engineering, science and technology. Students work independently, in pairs, and in small groups to solve the challenges presented them by Dickson.

Crook County School District #1

Shanna Kinnick, educator at Moorcroft K-8, has a vision for the school that continues towards progress motivates students and staff to achieve at higher levels in the areas of science application. Kinnick works closely with the school principal and teachers in her role of instructional facilitator to determine the academic application of science through hands-on opportunity utilizing Project Lead the Way. Being the lead teacher for the district, she has been instrumental in growing the innovation of STEM from kindergarten through ninth grade. Kinnick has introduced the students to medical field while using Medical Detective models where the students have dissected a sheep brain, a cow eyeball, and created a walking boot for a student. The students have presented to the school board and have stated that because of this class, they have decided to go into the medical field. Some example of careers the students are exploring are: EMT, Coroner, Doctor, Veterinary Sciences, and Mortician. Student engagement has increased in her class and students are excited to come every day.

Johnson County School District #1

In August 2017, Johnson County School District #1 received the Wyoming Education Trust Fund for Innovative Education grant to create a Coding Apprenticeship Project (CAP). This project was created to bring innovative, real-world training and apprenticeship experiences to high school students in Johnson county. The district used funds from the grant to provide training in coding and computer science through industry partnerships to eight students per semester, and a total of 16 students from Buffalo High School and Kaycee High School received training and work experience during the 2017-18 school year.

Laramie County School District #1

Charlie Richardson, teacher at Triumph High School, created a classroom environment where the learning is based on the individualized needs of each student. Using Canvas, Richardson has created a learning environment where no student fails the class, they just continue until they get to a proficient level of understanding. The arbitrary time of nine weeks to learn content has been completely removed from Richardson's classroom to accommodate students who need more time to learn, and students who need less time can advance at their own pace.

Natrona County School District #1

In August of 2017, Natrona County School District was awarded the Wyoming Education Trust Fund for Innovative Education grant to provide financial literacy training to students, parents, and teachers. The goal of the program was to encourage smart financial decisions by creating a financial literacy curriculum to help students meet all five Wyoming Content and Performance Standards for Career and Vocational Education and prepare them to be successful in earning proficiency in the W!se Financial Literacy certification test. Upon completion of the award year, the district was able to report that they were successful on four out of five goals initially described in the grant proposal. The district was able to implement use of the W!se Financial Literacy Certification, encourage and increase parent involvement, provide training and learning opportunities for teachers in the district on budgeting and financial literacy, and to increase access to devices through the addition of computers to classes resulting in 1:1 ratio for all Finance courses at Kelly Walsh High School.

Park County School District #6

The Broadcast Journalism program at Cody High School has been student-led for twenty years, and the students are the voice of the school and they inform their student body of current events. Their stories often transcend past the student-body and into our community. As their advisor, Erika Quick often pushes them to ask the tough questions, and she always warns students that some stories may lead them into the unknown. It may challenge them to arrive in a place they did not expect. That is what journalism is, the pursuit of what's true, even if it is uncomfortable or doesn't fit within the walls a person's normalcy. Quick is always looking at new technologies or ways to improve the program, but sometimes it isn't necessarily having the newest gadget or piece of technology. In Cody, they are lucky enough to have a studio, a lab and amazing equipment. However, Quick teaches students to be converged journalists. To do this they need to know how to use the resources around them. Sometimes the best gadget can be the phone in their pocket. Quick wants to teach students to be resourceful and to be problem solvers. Students have had to make podcasts with their phones (using the iPhone headphones as a microphone), they have created videos and designed flyers. Students are always trying out new apps and use a multitude of free resources to help streamline our workflow.

Platte County School District #1

Elizabeth Scicluna is an English Language Arts (ELA) instructor. She has incorporated the use of Google Classroom into her English courses, which allows for differentiated instruction and instructional support through the use of Google Read&Write. Google Classroom also allows for collaboration by students, peer review, and access to learning for students who need additional time outside of class to complete assignments in a digital format. Beyond using Google Classroom, Scicluna has incorporated screen casting in her formative feedback on research papers, which allows her to to add video and audio annotations. She uses a digital pen to annotate the student work while narrating the feedback, so when the students open the annotated document they hear and see her feedback as she makes suggestions for corrections and improvement to their documents.

Weston County School District #7

Nick Johnson, teacher at Upton High School, allows his students' interests and educational needs to drive the framework of his teaching, which then pushes the students toward an even deeper level of learning. They are not going through a text, they are researching and connecting the research to the desired standards. Students see their areas of need for themselves, and make plans and have choice and involvement in determining their learning outcomes. Johnson's students are empowered by having a voice to explore their interests, and the technology available today has allowed them to dig deeper into topics than in prior years and has opened up more possibilities for students to reach their learning goals.

Karla Ludemann, teacher at Upton High School, has embraced personalized learning and flexibility in her classes. This has allowed students to personalize courses and create learning opportunities for themselves in their particular interest areas. Ludemann's classroom is a comfortable, open environment where students are free to come and go as they please. She facilitates 11 classes each day and has started a robotics club for students this year. Students are welcomed to a less traditional environment where investigation, discovery, failure leading to success, and peer support are the most important aspects. She facilitates the acquisition of resources, materials, and knowledge so that students are empowered to explore career paths through engaging project work. She has provided students with real-world field trips from Rapid City Rush tours to partnering with the local grocer to advocate for local shopping. These real-life experiences motivate, drive, and embolden her students to make learning real.

Conclusion

The DLP and the initiatives created under it have the ultimate goal to provide every Wyoming student with the skills, understanding, and confidence they need to successfully enter college, a career, or the military in the digital age. Each of the critical components of the DLP work together to help meet this goal.

This year, computer science became a main focus of the WDE. Computer science is a literacy skill which better prepares students for the future, and Wyoming took a step forward to make this a reality by requiring all districts to offer computer science courses by 2022. The WDE will continue to work to support districts as they implement this new legislation. The Computer Science Education Task Force will also continue its work ensuring that K–12 aligns with higher education and the needs of industry.

In addition, a great deal of work has been completed this year around virtual education. Chapter 41 rules were created and promulgated. In addition, Virtual 307 was branded as the virtual education program and website, and has the list of all approved virtual education courses from across the state, including the cost to purchase the course from a different district. The WDE will continue its work with virtual education and try to find ways to resolve any unintended consequences resulting from the 2017 legislation. The VEAC will continue to meet and address and virtual education concerns that come from districts. Virtual education can provide more equitable education by allow students from smaller districts or rural districts to take courses online that their district may not be able to provide.

Canvas is the platform on which districts can offer their virtual education courses, and provides the opportunity for users to see all of their courses on one dashboard regardless of the institution offering the course. As more districts sign on to Canvas, the more seamless and consistent virtual education will become across the state.

Appendix A

Below are the DLP's goals and recommendations, along with the initiatives that are being utilized to reach those goals.

*Ongoing initiatives
Bold = New initiatives

CURRICULUM, INSTRUCTION, AND ASSESSMENT

GOAL	RECOMMENDATION	INITIATIVE/PROJECT
Provide a common understanding of what students should know, understand, and be able to do, specific to digital learning and digital citizenship.	Develop K–12/16 Digital Learning and Computer Science Education standards, guidelines, and a scope and sequence that educators can access and utilize to understand and engage in best practices at each grade level to meet the legislative requirements outlined in W.S. 21-2-202(a)(xx)	- Hour of Code* **CS Education**
Technology is used to gather and utilize data to inform educators and students with personalized instruction.	**1** Establish collaborative procurement for digital learning resources and processes. **2** Provide guidelines for evaluating and selecting digital learning resources that enable educators and students to use student data to improve teaching and learning.	**1** - K-20 Statewide LMS* - Open Range Wyoming* **2** - Data Retreats* - Open Range Wyoming* - QM Workshops*
Educators use instructional practices that shift their role to be facilitators of learning.	Provide a menu of differentiated professional development offerings for educators that includes face-to-face, online, and blended options that can be personalized and tailored to educators' needs and assist with understanding the changing role of educators.	- QM Workshops* - Innovative Educators Recognition*

USE OF SPACE AND TIME

GOAL	RECOMMENDATION	INITIATIVE
Students will be provided with a continuum of high-quality learning opportunities that can be easily identified, personalized, and accessed.	Facilitate the reduction of barriers to implementation such as seat-time requirements that focus on time in class rather than competency based learning, Carnegie unit requirements, or the ability to take classes from more than one district.	• Virtual 307*
Educators across the state will have access to models of effective digital learning across time and space.	Develop a clearinghouse with models of effective digital learning across time and space.	• Open Range Wyoming* • K-20 Statewide LMS* • Innovative Educators Recognition*
Offer quality online and blended courses for students that include opportunities for students to demonstrate mastery of content in a variety of ways.	**1** Develop a best practices guide for teaching online and blended courses. **2** Incentivize the development and teaching of high-quality online and blended courses.	**1** • QM Online Teaching Certificate* **2** • QM Online Teaching Certificate*

ROBUST INFRASTRUCTURE

GOAL	RECOMMENDATION	INITIATIVE
Every school has the capability to meet LAN/Wi-Fi standards.	Adopt LAN/Wi-Fi infrastructure standards.	• WCCI*
Support a technology infrastructure providing opportunities for equitable education for all children attending Wyoming's K–12 public schools.	**1** All school sites are on fiber optic and all districts can provide at least 1 Mbps of internet access per student. **2** Report annually through the DLP on school connectivity and utilization and support schools with improving connectivity.	**1** • WCCI* **2** • WCCI*
Every school has the capacity to successfully plan, procure, and manage their LAN/Wi-Fi networks.	Across state agencies, schools, and partners, work to leverage all available resources and support to identify which schools need support and engage the resources to support them and achieve sustainability.	• WCCI*
Every school has the capacity to provide sufficient funding, staff, and expertise to manage LAN/Wi-Fi networks.	Across state agencies, schools, and partners, work to leverage all available resources and support to identify which schools need support and engage the resources to support them and achieve sustainability.	• WCCI*
Technology directors, superintendents, curriculum directors, and other stakeholders consistently collaborate to support a common vision for supporting teaching and learning.	Align the planning process across infrastructure, devices, curriculum, facilities, and professional development.	• Technology Directors Conference* • **Technology Directors Workshop** • Tech Hubs* • **Statewide PLCs**
All schools have the capacity to sustainably provide the devices needed for learning.	Provide guidance and framework for considering best practices for device implementation, evaluation, criteria, evaluating funding options.	• WCCI*

DATA AND PRIVACY

	GOAL	RECOMMENDATION	INITIATIVE
	Student and educator data will be protected with privacy maintained in accordance with state and federal mandates.	**1** Provide guidelines and support for the mechanisms, safeguards, processes, and standards for protecting and maintaining student and educator data. **2** Provide professional development and support to ensure district and vendor personnel understand student data privacy laws once they are in place and when they change to maximize both safety and learning opportunities for Wyoming Students. **3** Provide guidelines and professional learning opportunities for educators to build skills toward data-based decision making and including students in the process.	**1** • Data Privacy* **2** • Tech Directors Conference* • **Tech Directors Workshop** **3** • Data Retreats* • **Wy-Fi**
All teachers will use assessment data that enables them to personalize instruction and increase student achievement.	Provide guidelines for evaluating and selecting digital learning resources that enable educators and students to use student data to improve teaching and learning.		• QM Workshops* • Open Range Wyoming* • **Wy-Fi**
All students will use data to understand their progression through the learning standards.	Provide guidelines and professional learning opportunities for educators to build skills toward data-based decision making and including students in the process.		• **Wy-Fi**

COMMUNITY PARTNERSHIPS

GOAL	RECOMMENDATION	INITIATIVE
Develop learning spaces in local communities that engage all learners (K–12, postsecondary, businesses, parents, and community members.).	Develop a communication plan so all community members know what learning resources are available.	- Open Range Wyoming* **Statewide PLCs** **CS Education**
Develop partnerships between K–12 systems, postsecondary institutions, and libraries that enable opportunities to learn from each other and leverage resources.	**1** Convene a workgroup to identify and coordinate the utilization of education resources available statewide and across institutions. **2** Partner with postsecondary institutions to integrate digital learning best practices into pre-service coursework and to increase digital learning pedagogy course offerings for pre-service educators.	**1** - Open Range Wyoming* **2** - Wyoming Innovations in Learning Conference* **Open Range Wyoming** - K-20 Statewide LMS*
Students have access to learning opportunities beyond the school walls by connecting to local community, national, and global partners.	Develop a clearinghouse of resources to support districts with providing students with opportunities to connect with global communities and projects to ensure college, career, and military readiness.	- Open Range Wyoming* - K-20 Statewide LMS* - WCCI* **CS Education**

PERSONALIZED PROFESSIONAL LEARNING

GOAL	RECOMMENDATION	INITIATIVE
Ensure all educators across Wyoming know what personalized professional learning opportunities are available.	**1** Develop a communication plan so all community members know what personalized professional learning opportunities are available. **2** Provide a professional development repository that is easily accessed where educators can pick and choose from offerings that result in micro credentials, UW and PTSB credit to complete a personalized learning path.	**1** - K-20 Statewide LMS* - Open Range Wyoming* **Statewide PLCs** **2** - Open Range Wyoming* - K-20 Statewide LMS*
Provide educators with a continuum of professional development choices that can be easily identified, personalized, and accessed.	**1** Provide a menu of differentiated professional development offerings for educators that includes face-to-face, online, and blended options and that can be personalized and tailored to educators' needs and assist with understanding the changing role of educators. **2** Utilize existing data regarding effective digital learning practices to pair high performing schools with novice or lower performing schools to increase capacity and improve digital learning practices. **3** Incorporate and model digital learning within all professional learning opportunities.	**1** - WCCI* **CS Education** **3** - K-20 Statewide LMS* - Open Range Wyoming*
Provide recognition (e.g. micro-credentialing, credit, higher degrees) for educators to continue their professional growth toward implementing effective digital learning practices.	**1** Work with UW Professional Studies and Outreach School to develop certificates from different disciplines. **2** Develop guidance for districts to incentivize educators to engage in badging or micro-credentialing (e.g., bump on pay scale, recertification credit).	**1** **QM Teaching** - Online Certificate* - QM Digital Credential*
Statewide network of educators and organizations focused on sharing digital learning best practices, implementation strategies, and successful outcomes.	Form a professional learning network among the education technology organizations that already exist in Wyoming to include WyTECC, WyDEC, e-Volution, Information Power Institute, and others coming together for a shared annual conference and a variety of other peer-to-peer learning opportunities.	Wyoming Innovations in Learning Conference*

BUDGET AND RESOURCES

GOAL	RECOMMENDATION	INITIATIVE
Increase cost savings and reduce costs when appropriate for digital learning.	**1** Maximize funding opportunities like E-Rate (develop a statewide E-Rate strategy, repurpose existing funds for more effective opportunities). **2** Coordinate purchasing opportunities to increase efficiency, including partnering with higher education for economies of scale. **3** Use of free, open source, and open education resources.	**1** • WCCI* **2** • K-20 Statewide LMS* **3** • Open Range Wyoming*
Develop innovative use of funds to incentivize work on Digital Learning.	**1** Repurpose existing funds to incentivize digital learning. **2** Promote collaboration between district technology leaders with other district leaders to understand how technology and digital learning can be funded.	**1** • Virtual 307* • Open Range Wyoming* • K-20 Statewide LMS* • WCCI* **2** • WCCI* • Technology Directors Conference* • **Tech Directors Workshop** • Tech Hubs*
Leverage partnerships with businesses to increase funding opportunities.	Build partnerships with industries across the state and nationally to support education and create new funding opportunities.	• Coders of the West* • WCCI* • **CS Education**
Provide guidance for developing sustainable technology and digital learning procurement plans.	Develop guidance for developing replacement cycles and budgetary requirements.	
Provide guidance for prioritizing investments.	Develop return on investment analyses to assist in prioritizing efforts around digital learning.	

Appendix B

DIGITAL LEARNING PLAN GEARS

The seven Digital Learning Plan gears are identified as follows:

CURRICULUM, INSTRUCTION, AND ASSESSMENT

- 21st Century Skills/Deeper Learning
- Personalized Learning
- Collaborative, Relevant, and Applied Learning
- Leveraging Technology
- Assessment—Analytics Inform Instruction

USE OF SPACE AND TIME

- Flexible Learning; Anytime, Anywhere
- New Pedagogy, Schedules, and Learning Environment for Personalized Learning
- Competency-Based Learning
- Strategies for Providing Extended Time for Projects and Collaboration

ROBUST INFRASTRUCTURE

- Adequacy of Devices; Quality and Availability
- Robust Network Infrastructure
- Adequate and Responsive Support
- Formal Cycle for Review and Replacement

DATA AND PRIVACY

- Data and Data Systems
- Data Policies, Procedures, and Practices
- Data Informed Decision Making
- Data Literate Education Professionals

COMMUNITY PARTNERSHIPS

- Local Community Engagement and Outreach
- Global and Cultural Awareness
- Digital Learning Environments as Connectors to Local/Global Communities
- Parental Communication and Engagement
- District Brand

PERSONALIZED PROFESSIONAL LEARNING

- Shared Ownership and Responsibility for Professional Growth
- 21st Century Skill Set
- Diverse Opportunities for Professional Learning Through Technology
- Broad-Based, Participatory Evaluation

BUDGET AND RESOURCES

- Efficiency and Cost Savings
- Alignment to District and School Plans
- Consistent Funding Streams
- Learning Return on Investment

Appendix C

DIGITAL LEARNING PLAN PROJECTS

WYOMING CLASSROOM CONNECTIVITY INITIATIVE

Wyoming Classroom Connectivity Initiative
WCCI focuses on improving WiFi access in schools across the state by providing technical assistance and professional development to school districts.

VIRTUAL 307

Virtual 307
Virtual 307 is the state's K-12 virtual education program, including a website for pre-registration for virtual education courses offered throughout Wyoming.

Wyo Courses 2.0

WyoCourses 2.0
WyoCourses 2.0 is a consortium of linked Canvas learning management system instances to allow students and educators to login once and access all of their classes.

OPEN RANGE wyoming

Open Range Wyoming
Open Range Wyoming is a platform providing high quality, vetted, openly licensed education resources aligned to Wyoming content standards.

BOOT UP WYOMING

Boot Up Wyoming
Boot Up Wyoming is an initiative to implement computer science in all Wyoming schools by the 2022-23 school year.

FUTURE READY SCHOOLS — PREPARING STUDENTS FOR SUCCESS

Future Ready Wyoming
Future Ready Wyoming is a robust structure for districts to vizualize, plan, and implement personalized student learning. through the use of digital learning.

wy-fi — WY DISTRICT DASHBOARDS

Wy-Fi
Wy-Fi is a dashboard used by educators to better understand student outcomes using data, including early warning indicators for meeting educational milestones.
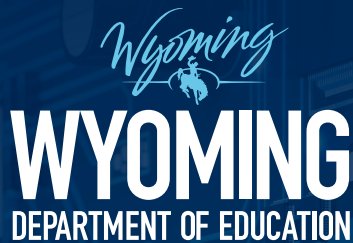
I am pleased to bring to you this update on how the Wyoming Department of Education (WDE) and its stakeholders are meeting the goals set forth in Wyoming's five-year strategic Digital Learning Plan (DLP). Our goal is to construct a roadmap to ensure that every student acquires the skills, understanding, and confidence they need to successfully enter college, a career, or the military in the ever-evolving digital age.

It has been a year filled with extraordinary accomplishments. As many of you know, the Wyoming Legislature passed **Senate Enrolled Act0048**, which adds computer science and computational thinking to the state educational program. Soon after, the WDE launched Boot Up Wyoming 2022, the initiative to implement computer science in all Wyoming schools by the 2022-23 school year.

This report outlines the DLP initiatives and highlights the accomplishments that continue to be made, as we enter into the second year of implementation of the five-year plan. Our achievements are only possible because of out strategic partners across the state and nation, including Apple, Code.org, Microsoft, and Teachers Teaching Tech.

Major projects and initiatives from the second year of implementation include: Open Range Wyoming an Open Educational Resource Platform, the Wyoming Classroom Connectivity Initiative a program to support districts in E-rate utalization, Virtual 307 the K-12 Virtual Education program and website, the statewide K-20 Learning Management System (Canvas), and many professional development efforts including Future Ready and the inaugural Wyoming Innovations in Learning Conference.

Wyoming has a bright future in digital learning - and we think Boot Up Wyoming 2022 presents a leap-frog moment for our students, and our state. I invite you to come along, as we create Wyoming's future-ready classrooms.

JILLIAN BALOW
Superintendent of Public Instruction