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Blended Learning in Rural Colorado:

Status and strategies for expansion

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Executive Summary

Across the country millions of students are accessing online and blended courses while attending a physical school, an estimated 50% of districts are offering some online or blended learning options, and more than 250,000 students attend fully online schools. These opportunities, however, are not equally available to all students. In Colorado, educational options that blend online and face-to-face instruction—at the course, unit, or school level—are more widespread in urban and suburban areas along the Front Range than in rural districts on the plains and along the western slope. The reasons for this disparity are not yet well understood.

The Colorado Department of Education (CDE) sought to better understand blended learning in rural areas of Colorado, why fewer opportunities exist in rural areas than in urban and suburban areas, and what changes could help create opportunities for all Colorado students. Research methods included a literature review, survey of rural districts, and phone interviews with a subset of survey respondents. Eighty-four percent of survey respondents reported having students taking part in online or blended learning, but in most cases the total number of students engaged in such activities is small.

Three statewide programs support blended learning at the district level: Colorado Online Learning, eNetColorado, and the EAGLE–Net Alliance. In addition to these statewide providers, several schools and districts across rural areas of Colorado have created their own blended programs. Significant barriers to further expansion still exist, however, including broadband access, funding, and professional development. Recommendations for increasing and improving online and blended learning opportunities are:

- Increase broadband access,
- Provide examples of successful blended learning case studies as exemplars, and
- Address funding inequities and outdated rules that restrict the expansion of blended learning.

Other ideas that may further spur blended learning activity in Colorado are increased innovation through competition, and enhancing the role of the state virtual school in developing districts' blended learning capacity.

Findings and recommendation of this research are consistent with the Colorado Department of Education and Colorado Legacy Foundation's Expanded Learning Opportunities vision and strategic plan. Blended learning can—and in some places already is—replacing seat time with competency-based learning, extending learning beyond the school building and the school day, allowing students to take charge of their education, and demonstrating improved student outcomes. The important next steps are to extend these opportunities to more students across all of Colorado, so that options for Colorado students in rural areas match those of the urban and suburban areas of our state.

1. Introduction

Across the country millions of students are accessing online and blended courses while attending a physical school, an estimated 50% of districts are offering some online or blended learning options, and more than 250,000 students attend fully online schools.[1] These opportunities, however, are not equally available to all students. They are more common in some states than in others, and differences exist within different regions of most states. In Colorado, educational options that blend online and face-to-face instruction—at the course, unit, or school level—are more widespread in urban and suburban areas along the Front Range than in rural districts along the plains and on the western slope. Larger districts may invest in new approaches more easily, which could result in this disparity, but the reasons for this discrepancy are not yet well understood.

The Colorado Department of Education (CDE) sought to better understand blended learning in rural areas of Colorado and why fewer opportunities exist in rural areas than in urban and suburban areas. This report reviews these questions and offers strategies and policy recommendations for expanding blended and online learning to Colorado's rural areas. It includes actionable policy and practice ideas that the legislature, Colorado Department of Education, and school leaders may consider in order to bring 21st century learning opportunities to students across Colorado.

Research for this study began with a review of existing literature that explores rural education and blended learning. A survey was distributed in April 2012 to the superintendents of 139 rural Colorado districts, the executive directors and technology directors of all 19 Colorado Boards of Cooperative Education Services (BOCES), and the full-time online schools that serve rural students. (Survey questions are provided in Appendix A.) The survey asked for details about current online and blended offerings for students, faculty, and staff; plans for expansion; barriers to starting or growing programs; and suggestions to CDE for support. The survey was followed by a series of interviews with education leaders around the state. The nine interviewees included a small school principal, BOCES executive directors and technology directors, the director of eNetColorado (a professional development provider), a foundation leader, and district superintendents.

Findings in Colorado, which are discussed below, are consistent with similar research into other rural areas of the United States. For example, the first National Summit on the Role of Education in Economic Development in Rural America, held in May 2011, focused on the challenges of improving rural education. A report produced from the summit found that online learning gives rural students access to high-quality teachers and creates opportunities to develop a curriculum that transitions students into post-secondary opportunities, which can revitalize rural communities. The study authors believe that online learning "is a viable method for delivering high-quality education, especially high-demand, special topic and advanced courses to rural students."[2]

Several of the key findings of the national report are comparable to the findings in the surveys and interviews for this study. The similarities support the validity of the findings and suggest that states with rural populations may be able to learn from one another as they explore and test new and varied approaches to using blended learning for rural students.

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[1] These numbers are from two sources: Queen, B., and Lewis, L. (2011). *Distance Education Courses for Public Elementary and Secondary School Students*: 2009–10 (NCES 2012-008). U.S. Department of Education, National Center for Education Statistics. Washington, DC: Government Printing Office, and *Keeping Pace with K-12 Online Learning 2011,* Evergreen Education Group, www.kpk12.com

[2] Education Commission of the States, National Summit on the Role of Education in Economic Development in Rural America, http://www.ecs.org/docs/RuralSummit-recommendations.pdf, May 2011.

DEFINITIONS

This report focuses on blended learning, but also discusses online learning because the commonly used definitions of online and blended learning often overlap. For example, courses that are fully online may be used in a blended learning program when the online courses are combined with onsite courses.

Online learning is instruction via a web-based educational delivery system that includes software to provide a structured learning environment. It may be synchronous (communication in which participants interact in real time, such as online video) or asynchronous (communication that is separated by time, such as email or online discussion forums). It may be accessed from multiple settings (in school and/or out of school buildings).

Blended learning combines online learning with other modes of instructional delivery. The Innosight Institute defines blended learning as a combination of online and face-to-face instruction in which the student learns at least in part at a supervised brick-and mortar location away from home and at least in part through online delivery with some element of student control over time, place, path, and/or pace. [3]

The Innosight Institute defines four models of blended learning (shown in Figure 1) as follows:

"***Rotation model*** – a program in which within a given course or subject (e.g., math), students rotate on a fixed schedule or at the teacher's discretion between learning modalities, at least one of which is online learning.

Flex model – a program in which content and instruction are delivered primarily by the Internet, students move on an individually customized, fluid schedule among learning modalities, and the teacher-of-record is on-site.

Self-Blend model – describes a scenario in which students choose to take one or more courses entirely online to supplement their traditional courses and the teacher-of-record is the online teacher.

Enriched-Virtual model – a whole-school experience in which within each course (e.g., math), students divide their time between attending a brick-and-mortar campus and learning remotely using online delivery of content and instruction."

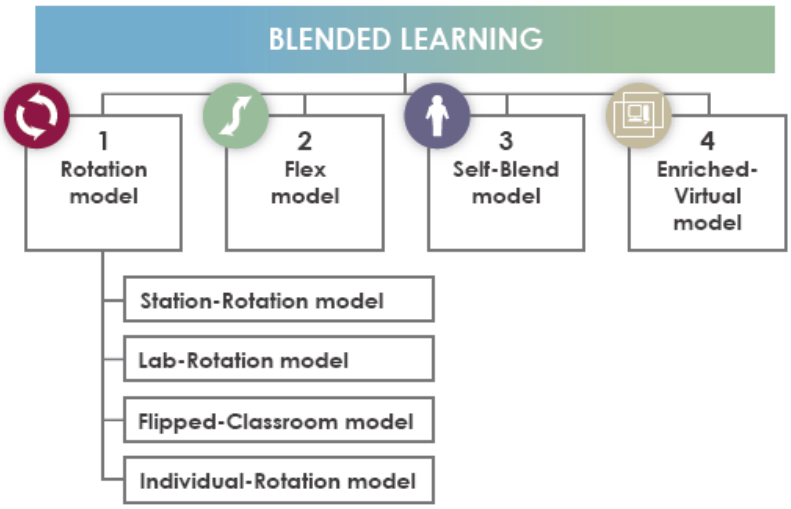

Figure 1: Blended learning models. Source: Classifying K-12 Blended Learning, Innosight Institute, May 2012

[3] For a detailed definition and explanation of blended learning, see *The Rise of K-12 Blended Learning*, Heather Staker and Michael B. Horn, Innosight Institute and Charter School Growth Fund, May 2011, http://www.innosightinstitute.org/media-room/publications/education-publications/the-rise-of-k-12-blended-learning/. Innosight's 2012 paper, *Classifying K-12 Blended Learning*: http://www.innosightinstitute.org/innosight/wp-content/uploads/2012/05/Classifying-K-12-blended-learning2.pdf further refined the definition and examples.

2. The Colorado education landscape

Colorado has 178 school districts; 139 of which CDE identifies as rural because they have fewer than 3,000 students. Some of these districts are extremely small; for example ten enroll fewer than 100 students. About 150,000 of Colorado's roughly 832,000 students (18%) are in rural districts.[4]

Online learning opportunities in Colorado are better understood than blended programs because online programs are tracked by CDE and blended programs are not. Across all districts, for school year 2010-11 the Colorado Department of Education (CDE) reported 15,249 unique students enrolled in full- and part-time online programs, an increase of 16% from 2009-10.[5] There were 22 multi-district and eight single-district programs in 2010-11. Three statewide supplemental district-level programs are not included in the enrollment total, and 11 additional single-district programs launched in fall 2011.[6]

The online program tracking by CDE may be used as a rough proxy for blended learning opportunities in Colorado, for two reasons. First, supplemental online programs, where students take online courses while enrolled and attending a physical school, are considered a form of blended learning. Second, anecdotal evidence suggests that districts with an online program are more likely to have a blended offering as well. In Colorado, this would correlate most closely with the single-district programs counted by CDE because, similar to blended programs, these programs are for students within a single district.

The CDE listing of single-district online programs suggests that such opportunities are not equally available to all students and that Colorado students' zip codes still heavily determine their educational opportunities. Of the 12 single district programs that CDE lists, only three are rural.

Three statewide programs support blended learning at the district level: Colorado Online Learning, eNetColorado, and the EAGLE–Net Alliance.

- **Colorado Online Learning**[7] **(COL)** is the state virtual school and offers supplemental online courses to students statewide. It reported 1,574 course enrollments in 2011-12; 81% of its students come from rural districts.[8] All schools with students enrolled in COL must have a local site facilitator who works with the student through the enrollment process and can intervene if a student is struggling. COL is a 501(c)3 organization funded via a state appropriation through the Mountain BOCES. It has been renewed each year since 2007.
- **eNetColorado**[9] offers learning professionals access to technology training and web 2.0 tools such as blogs and wikis. Colorado educators can leverage shared resources including individual AdobeConnect rooms for web conferencing, online course shells available through eNet's Moodle environment, content and

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[4] Number of students in rural districts is from *A Rural Needs Study: Improving Services to Rural School Districts,* Phil Fox and David Van Sant, Ph.D., January 2011, http://www.cde.state.co.us/cdegen/downloads/ARuralNeedsStudy.pdf.

[5] Colorado Department of Education, Unit of Online Learning, *Summary Report of the Operations and Activities of Online Programs in Colorado*, June 1, 2011; http://www.cde.state.co.us/onlinelearning/

[6] For a complete history of online learning policy in Colorado see pp. 76-77 in *Keeping Pace with K-12 Online Learning 2011*, http://kpk12.com/reports/.

[7] http://www.col.k12.co.us

[8] One course enrollment is equal to one student taking one semester-long course. Enrollment data pulled from Colorado Online Learning's Yearly Evaluation Report for the 2011-12 school year. http://www.col.k12.co.us/aboutus/evalreports/COL%20Eval%20Rpt%202011-2012.pdf.

[9] http://www.enetcolorado.org/

videos loaded by districts in iTunesU Colorado, and standards-based content available through Digital Resource Exchange and Marketplace (DREAM). eNetColorado also provides leadership to enhance learning and staff development using technology, offering web-based trainings for a small fee ($50-$75).

- **EAGLE-Net Alliance (EAGLE-Net)**[10] is a Colorado intergovernmental entity which operates a cost-sharing cooperative that will deliver a broadband network to more than 230 community anchor institutions (CAI) by August 2013. CAIs are "middle mile" facilities, connecting the core networks to the "last mile" networks in individual homes and businesses. The CAIs include at least one networked center in all 178 K-12 school districts throughout the state, as well as some libraries, BOCES, and higher education institutions. EAGLE-Net also provides Internet services with access to advanced research and education networks. See Figure 2 for a map of CAIs.

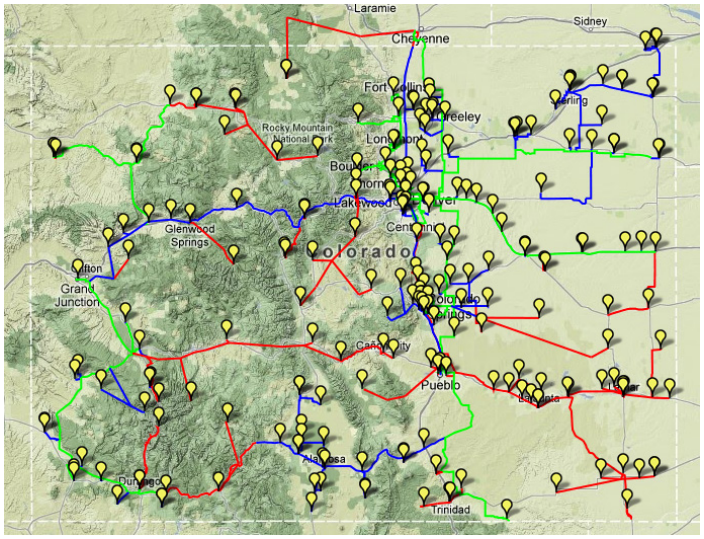

Figure 2: Colorado community anchor institutions.

- Green = Existing Network
- Blue = Operational by August 2012
- Red = Operational by August 2013[13]

In addition to these statewide providers, several schools and districts across rural areas of Colorado have created their own blended or technology-enhanced educational programs.

- **Buena Vista School District**[11] offers a variety of learning modalities to its students including fully online courses, blended learning that is primarily classroom-based, and blended learning where the content is primarily delivered online. In seeking to meet the needs of a variety of students working at different paces and abilities, the Director of Online Education noted "We figured out how to evaluate competency in a Carnegie system."

- The superintendents of the nine districts in the **San Juan BOCES** recognized the need to create more options for students and wanted students to stay within their districts instead of seeking external providers. The BOCES opened the Southwest Colorado eSchool (SWCeS)[12] in fall 2011, offering both full-time and part-time (supplemental) options to students in its nine member districts. The school seeks to adapt its model in 2012-13, allowing students to remain enrolled in their local districts and maintain a connection with their local schools while taking their classes through SWCeS.

[10] http://www.co-eaglenet.net/

[11] http://www.bvschools.org

[12] http://www.southwestcoloradoeschool.org/

[13] http://www.co-eaglenet.net/btop/map/

- **Sargent Elementary School**[14] in Monte Vista uses 1:1 technology (one laptop per student) with all of its middle and high school students, and has 12 iPads in each of its K-4 classrooms. The principal is working to figure out how to include parents in the school's iPad and laptop programs so they are more comfortable with the technology their children are using in the classroom.
- **The Southeastern BOCES**[15] facilitates collaboration and resource-sharing among its 12 districts, the smallest of which has 47 students. Two districts share one algebra teacher: she works at one school on Mondays, another school on Fridays, and with students at both schools over interactive video on Tuesdays, Wednesdays, and Thursdays.

These programs are meeting student needs by expanding course catalogs, creating schedule flexibility, teaching 21st century learning skills, using existing resources creatively, and collaborating with regional partners. They can serve as a model for best practices as Colorado looks to use online and blended learning to better meet student needs statewide.

3. Findings from the survey and interviews

Because blended programs are not required to report any data to CDE indicating that they are blended, and there have been no large-scale efforts to determine the blended programs that exist, little information is available about blended learning in Colorado. This study conducted a survey and interviews to find such information about blended learning programs, as well as to explore educators' views about blended learning. Sixty-six people from 54 different entities responded to the survey. Of these, 84% indicated that students were participating in online or blended learning (see Table 1).

N = 66 responses from 54 entities	Yes	No
Do students in your district or BOCES participate in online or blended learning?	84%	16%
If no, is your district currently discussing or planning to implement online or blended learning?	44%	56%
Have your teachers and/or administrators participated in any professional development in online or blended learning teaching methods?	59%	41%
Have your teachers and/or administrators participated in any professional development delivered through online or blended learning technology?	68%	32%
Is the online content in your blended courses primarily used as a supplement, as opposed to the primary content for those courses?	79%	21%

Table 1: Select questions from Rural Online and Blended Learning Survey, April 2012

[14] http://www.sargent.k12.co.us/elementary.html

[15] http://www.seboces.k12.co.us/

OTHER KEY FINDINGS FROM THE SURVEY INCLUDE:

Grade levels:

Of respondents who said they have students participating in online or blended learning:

- 100% indicated that their high school students participate;
- 57% indicated that middle schools students participate, and
- 19% indicated that elementary students participate.

Overall numbers of students in online and blended learning:

Enrollment totals are relatively low, with 55% of districts reporting fewer than 50 students in online and blended learning courses. This mirrors results reported nationally by the National Center for Education Statistics in which over 50% of districts reported 30 enrollments or fewer in distance education courses[16]. About two-thirds of respondents to the Colorado survey reported online and blended learning enrollments that equate to less than 10% of their overall district enrollments.

Blended learning instructional models (see definitions and figure above)

Respondents identified which model(s) of online and blended learning their students participated in:

- 56% fully online
- 49% self-blend model
- 37% flex model
- 33% video conferencing
- 16% rotation model
- 12% enriched virtual model

Types of courses being taken

The data on types of courses taken by Colorado students reflect lower percentages but similar trends to national data reported by NCES in credit recovery, dual enrollment, and Advanced Placement, but differ in career and technical education (see Figure 3).

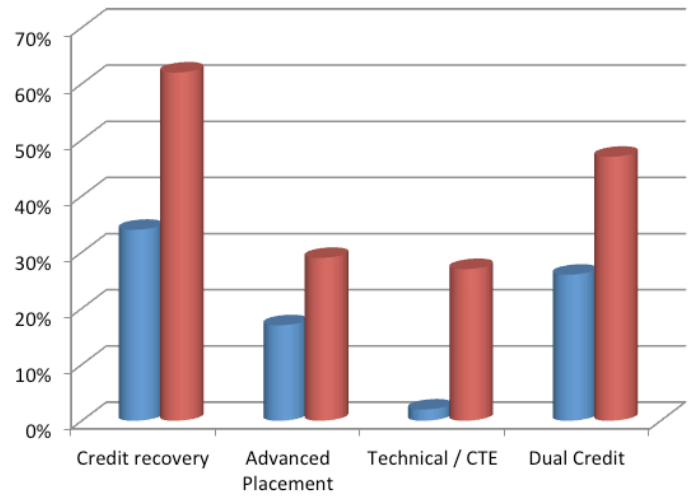

Figure 3: Respondents characterization of types of courses taken by students in their district or BOCES in Colorado compared to national percentages. National data are from Distance Education Courses for Public Elementary and Secondary School Students: 2009–10.

[16] Queen, B., and Lewis, L. (2011). *Distance Education Courses for Public Elementary and Secondary School Students*: 2009–10 (NCES 2012-008). U.S. Department of Education, National Center for Education Statistics. Washington, DC: Government Printing Office

Benefits of online and blended learning

Respondents identified many benefits for online and blended learning, including:

- Expands course catalog / schedule options
- Credit recovery / dropout recovery
- Schedule flexibility in small school
- Reach at-risk students / different learning environment
- Preparation for future occupations / 21st century skills.

Professional development

Thirty-seven of 63 respondents (59%) indicated that their teachers and/or administrators had participated in professional development in online or blended learning teaching methods, while 68% of respondents replied that teachers and/or administrators had participated in professional development delivered through online or blended learning technology. Survey comments and interviews noted that individual teachers may have participated in online or blended learning professional development on their own, without arrangement by their district or BOCES. Professional development was delivered by a wide variety of providers including eNetColorado, content providers, learning management system vendors, and CDE or BOCES-sponsored trainings. Some respondents indicated they created their own trainings (most of these were the full-time online schools). The fact that some interviewees mentioned vendors suggests that they consider vendor-provided trainings to be professional development. Whether or not this is sometimes an accurate assessment, there is clearly a difference between most software trainings and professional development courses that, for example, explore blended teaching pedagogy.

Interviewees also noted that online and blended learning allows districts to share and have access to highly qualified teachers, who are in high demand in rural areas.

4. Key themes among the findings

Three themes recurred in interviews with program leaders who are offering online and blended options to their students. These themes suggest recommendations for the state, which are discussed below.

THEME 1

Identify and support district champions of online and blended learning. Blended program(s) were often started by champions who hold another job for the district. These champions are teachers, principals, or administrators who choose to take on an additional role of supporting or driving online and blended learning. These key people hold many different formal job titles, and recognition of their efforts by their districts, superintendents, school boards, and others, is mixed. In the short-term, CDE should encourage local school and BOCES leaders to identify, support, and communicate with these champions, who may not be aware of existing resources and best practices around the state as they may not receive communication from CDE or other state-level organizations. Long-term, many districts may not be capable of financially supporting a position dedicated to online and blended learning—or may choose not to dedicate funds to such a position. However, groups of districts working together through a BOCES or other collaborative institution may be able to do so.

THEME 2

Promote collaboration across districts. Many of the emerging success stories point to the value of sharing resources. One survey respondent noted, "It would be nice if districts that chose to run single district programs and use the same providers could cooperate to reduce costs and/or share teachers." Anything CDE can do to change state rules that permit more collaboration between schools and districts without penalty will support the smaller rural districts that cannot afford to start programs independently (see details about this barrier below under funding). Collaboration through pooled resources will be essential.

THEME 3

Encourage the first small steps that districts take towards blended learning. Many programs started with baby steps: online credit recovery for some students, teachers who work together to bring Khan Academy and other open educational resources[17] into their traditional classrooms, or a single teacher who starts posting his lectures online and working with students individually or in small groups during class. These first steps are a critical launching point for many schools and districts that struggle with the demand for more money and resources. Encouraging these small steps—and their champions—through learning coaches, pilot programs, small grants, and online professional development will allow schools and districts to ease into this relatively new teaching and learning methodology. This effort would likely involve more organizations than just CDE, perhaps including districts, foundations, and vendors. CDE, however, would play a key role organizing and catalyzing such initiatives.

[17] Open education resources are digital materials available for free or a very low cost. They may be used, reused, modified, and shared. One example is the materials available through the National Repository of Online Courses (NROC).

5. Barriers to expansion

While many districts and BOCES report some enrollments in online and blended learning courses, the total number of students taking advantage of online and blended learning opportunities is still very low. In order to understand why, the survey and interviews asked respondents what barriers prevent them from starting and growing online programs. The main ideas that emerged were:

- **Broadband access:** Survey respondents and interviewees noted lack of broadband access as a barrier to online learning. In addition, some of the interview candidates were identified because their district or BOCES is solving the challenge of Internet access creatively. For example, one school has to shut down Internet access to all classrooms when a math class is streaming online content. Other districts and BOCES rely on interactive video because high-speed Internet access isn't available. However, while some areas creatively construct temporary solutions, students throughout the state deserve equal access to online resources. As noted in the report from the Rural Education Summit, limited broadband access restricts the online and blended learning options a school or district can offer to its students and staff. The National Broadband Map clearly shows major gaps in access throughout Colorado (see Figure 4),[18] and while EAGLE-Net is working to expand access throughout the state, much work remains to reach all rural communities.

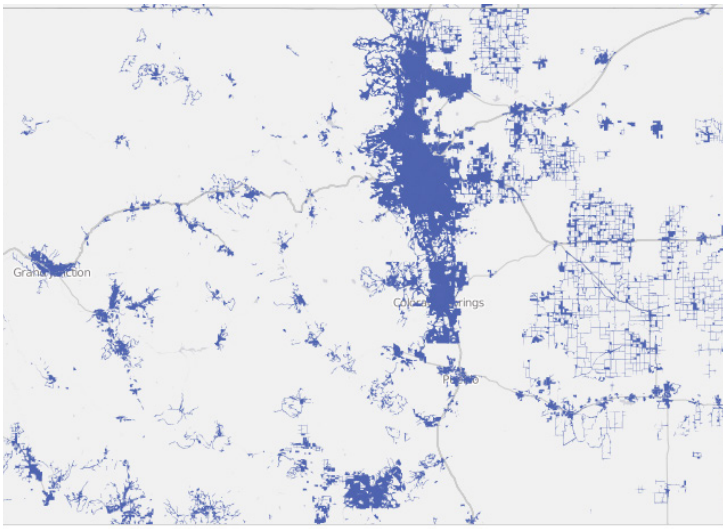

Figure 4: National Broadband Map, focus on Colorado, 3Mbps-6Mbps and higher.
Source: http://www.broadbandmap.gov/technology

- **Communication / Messaging:** A recurring theme in many of the surveys and interviews was the lack of support from education leaders, parents, and community members around the value of online and blended learning. Though champions of online and blended learning work in many districts throughout the state, they are limited in their potential by the decision-makers above and around them. Some do not see the value, others see it as an overwhelming undertaking, while others simply have not prioritized it. Especially in rural districts where the superintendent takes on many roles, having the time to learn about all of the options, choose the best option for his or her district, and begin implementation is a major barrier. That lack of support results in limited opportunities for students.

- **Funding model:** This theme came up repeatedly in both the surveys and the interviews; one-third of survey respondents mentioned the need for funding in a variety of contexts including Internet access, equipment, high-quality course content, teacher training, and other resources. Some districts simply want funding to cover the cost of a student's enrollment in a supplemental course through Colorado Online

[18] The National Broadband Map, http://www.broadbandmap.gov/technology

Learning or video conferencing, while others have a comprehensive vision for their schools that requires financial support. One interviewee noted that while online and blended learning are doing good things in her BOCES, they have "just planted the seeds" for a variety of new options for students and teachers.

An additional challenge is that the current funding system provides higher funding for single district programs that only serve their own students, compared to multi-district programs. This creates a disincentive for districts to work together in order to provide online and blended opportunities. Some districts would like to work together to offer these options, similar to the Southwest Colorado eSchool created in 2011 by the San Juan BOCES, but don't want to reduce their funding in the process.

Finally, the perception exists that the current funding system is based entirely on seat time or equivalent approaches that prevent schools from moving to a mastery-based system. As one BOCES director noted, "If a kid can demonstrate mastery, let's move them. It wears them down otherwise."

- **Professional development:** While many districts reported that their teachers have participated in some training specific to online and blended learning, about 20% of survey respondents and all nine interviewees still identified professional development as a need. Of those, only two have not yet offered training specific to online and blended learning, hinting at more complex reasons beyond content availability. These issues include a lack of knowledge of options, lack of ability or willingness to pay, and lack of time for teachers and administrators.

6. Recommendations

Based on feedback from education leaders around the state, we propose the following three recommendations for consideration by CDE and the state legislature as pathways to expand online and blended learning opportunities to students throughout Colorado.

RECOMMENDATION 1: Increase broadband access

- Ensure that EAGLE-Net is funded through its 2013 projected completion date, and that it reaches all 178 school districts. Identify a strategy to take network connections from the "middle mile" to the "last mile," bringing high-speed Internet access much closer to school for most students, especially in large rural districts. Several other states, including Utah and Idaho, have implemented broadband programs that may serve as examples to Colorado.

RECOMMENDATION 2: Provide examples and improve messaging

- Identify and develop "proof points" that can be analyzed and shared. Create use cases detailing existing best practices from throughout the state that can be modeled elsewhere. Fund pilot projects, perhaps through financial incentives to the BOCES, that use blended learning as a strategy and the implementation of competency-based learning as an outcome.
- Create a statewide plan that districts and BOCES could use to understand what online and blended learning is, why it is beneficial for students and teachers, and where to begin with implementation. The California County Superintendents Educational Services Association funded the creation of the California eLearning Framework to do just that for California districts. The Framework examines the national landscape of eLearning and presents four key components of quality online and blended learning opportunities within a California context: content and content evaluation; teaching and professional development; technology support; and operational issues. School districts can use the Framework as a guide to becoming informed consumers and as a tool for strategically planning a successful program of eLearning opportunities for students.[19]
- Continue to talk about and promote online and blended learning options, trainings, conferences, and resources to all educators throughout the state, reaching beyond building and district leaders to all teachers and staff members in order to find the blended learning champions.
- Consider a requirement that teachers receive professional development in blended learning as part of licensure. A few states (e.g., Wisconsin) have created similar professional development requirements for online teachers. We stop short of calling for this change because it is not clear that professional development requirements have resulted in improved student outcomes, but a professional development requirement in tandem with additional changes may together yield positive results.

[19] California County Superintendents Education Services Association, California eLearning Framework, August 2011, http://www.ccsesa.org/index/attachments/eLearn_Framework.pdf

RECOMMENDATION 3: Address funding inequities and outdated rules

- Address the perceptions about seat-time requirements by:
  - Communicating the ways in which scheduled equivalent hours can substitute for seat-time,
  - Allow these equivalents to be used by blended programs,
  - Demonstrate a system by which districts can use a mastery-based system to promote students and receive funding for them.
- Allow BOCES to receive single-district PPOR to provide online and blended learning opportunities for students in their member districts.

We recognize that allowing BOCES to receive single-district funding may appear to create a level of inequity between multi-district programs that are not within a BOCES and those that are within a BOCES. The challenge, however, is that in a state in which funding levels vary by district, there is no straightforward solution to funding online and blended students. If all students continue to generate funding at the level that they would in their home district, the problem created is that students in the same online school will generate very different levels of funding. Having two students attending the same school and going through perhaps the exact same courses, using the same teachers, with different funding levels does not seem appropriate.

Alternatively, applying a level of funding to all online students whether they are in a single-district program or a multi-district program creates a problem because a district would effectively lose funding if it moved the student from the physical school into the online school. The state should not create a situation in which strong financial incentives exist for one mode of instruction over another.

These recommendations align with the proposals suggested by the Expanded Learning Opportunities Commission of the Colorado Legacy Foundation and Colorado Department of Education.[20]

[20] Beyond Walls, Clocks, and Calendars: Rethinking Public Education in Colorado. The Expanded Learning Opportunities Commission. Colorado Legacy Foundation and Colorado Department of Education. September 2011.

7. Looking to the future

Many Colorado schools, districts, and BOCES are creatively solving challenges for their students through online and blended learning. They are expanding course catalogs, solving scheduling challenges, and teaching students 21st century skills by incorporating technology into brick-and-mortar classrooms, allowing students to take supplemental courses through external providers, and offering full-time online educational options. However, these opportunities are scattered and inconsistent, creating inequity for students in rural areas.

With no further changes in state policies or investment, it is likely that Colorado's schools will remain on an uneven path towards blended learning, with some districts moving more quickly than others and students' opportunities continuing to be based on their district of residence.

Removing the barriers, as discussed in the previous section, is a valuable step that the state can take towards increasing blended learning options. Thinking more broadly, two other directions might be considered as well.

Increasing innovation through competition

Examples from other states suggest that district leaders respond to competition when online schools attract a significant percentage of students, or when there is student choice at the course level. Findings from the interviews suggest that an increase in competition—while unlikely to be welcomed by some district administrators—might spur additional activity in rural districts.

Most of the administrators interviewed are pushing for changes within their districts. It is clear, however, that educators often run into obstacles that impede their efforts. Some of these obstacles are state laws, rules, and real or perceived limitations of funding structures (addressed above). Others are obstacles within the district. Often a higher-level administrator or school board is not supportive of the extensive changes necessary to implement blended learning at a scale that reaches most students. A strong bias exists to keep the status quo, and the champions of innovation often run into this inertia.

None of the people interviewed for this report made this case; none called out their supervisors or the district generally as impeding their work. However, the survey results, other research, and evidence from other states suggest that the districts most likely to implement blended learning are the ones losing students and funding to other schools. These are the districts who recognize that they must invest in blended learning to compete with the other options that students have.

If Colorado wishes to further spur competition, one approach is to allow student choice at the course level, instead of just at the school level. Utah and Florida have passed laws allowing students to choose online courses with few restrictions from multiple providers, and other states are considering similar laws.

If Colorado follows this path, determining ways to address quality and accountability for outcomes will be necessary. Addressing these issues is outside the scope of this study, but quality and accountability measures must go hand in hand with increased student choice.

Using the state virtual school as a blended learning catalyst

Many rural districts highly value the benefits that students and districts receive from taking supplemental courses from Colorado Online Learning (COL). While COL is much smaller than many state virtual schools in other states, it plays an indispensable role in providing a subsidized set of online courses to Colorado districts.

In other states, the state virtual schools have taken on expanded roles. In the first decade or so of K-12 online learning, state initiatives and state virtual schools played a key role in efficiently providing high-quality online courses and resources. More recently, the key roles of state virtual schools have evolved from providing supplemental online courses to also helping states and districts build online learning expertise, and providing thought leadership around online learning issues (Figure 5). As online learning activity increasingly moves to the district level, the ongoing role of state virtual schools and other state-level efforts is being re-examined. Part of this re-thinking, in Colorado and elsewhere, includes considerations on how the quality of supplemental online courses—from a state virtual school or other provider—is assured or measured.

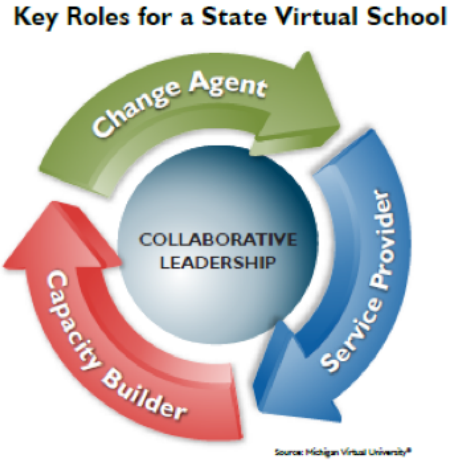

Figure 5: Roles for a state virtual school. Source: Michigan Virtual University

Some state virtual schools are beginning to explore ways to help districts with blended learning by providing tools, expertise, content, technology, and other resources. While no single and highly successful model yet exists, it is worth considering whether COL or a similar statewide entity should take on the task of helping districts create and grow blended learning options. This effort might include messaging, case study development, and other recommendations made in this report. Arguably, an organization such as COL, which is perceived as being closer to rural districts than CDE, might be a better entity to provide these services than CDE.

COL has been funded through an appropriation followed by a competitive Request For Proposal (RFP) in past years. A possibility to consider is that in the future the appropriation and RFP require that RFP respondents discuss how they can assist districts with implementing blended learning programs, in addition to providing supplemental online courses, and that the blended learning response be part of the rubric that determines the successful proposal.

Conclusion

The findings in this study mirror both the first National Summit on the Role of Education in Economic Development in Rural America (as discussed previously) and the plans and vision for Expanded Learning Opportunities (ELO) in Colorado that have been created by the Colorado Department of Education and Colorado Legacy Foundation. Indeed, many of the key ways in which ELO transforms learning mirror the methods and goals of blended learning (Figure 6).

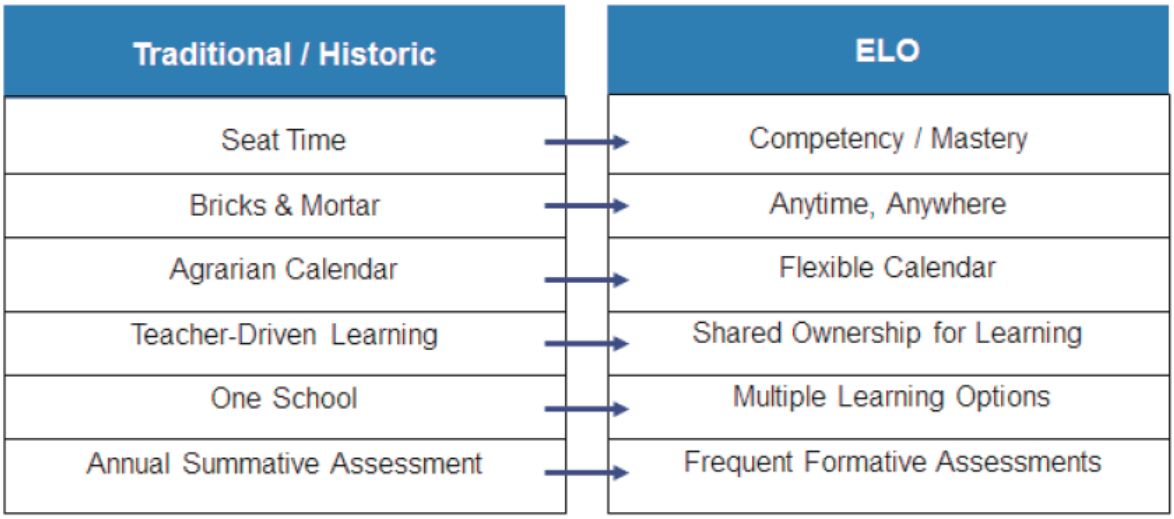

Figure 6: Ways in which Expanded Learning Opportunities transform learning. Most of these apply to blended learning as well. Source: Colorado Legacy Foundation and Colorado Department of Education, Igniting the Power of Learning: Expanded Learning Opportunities.

Blended learning can—and in some places already is—replacing seat time with competency-based learning, extending learning past the school building and the school day, allowing students to take charge of their education, and demonstrating improved student outcomes. Among the necessary next steps are to extend these opportunities to more students across all of Colorado, so that options for Colorado students in rural areas match those of the urban and suburban areas of our state.

Appendix A: Survey questions

The survey was deployed online in April 2012 to the superintendents of 139 rural Colorado districts, the executive directors and technology directors of all 19 Colorado BOCES, and the full-time online schools that serve a large number of rural students.

Introduction

The Rural Caucus and the Colorado BOCES Association, in partnership with the Colorado Department of Education and the Evergreen Education Group, are working to better understand what fully online, supplemental online, and blended learning options are available to students and teachers in rural Colorado, as well as what barriers are preventing you from starting or growing your online and blended programs.

This survey will help us to map the current landscape. If your district or BOCES is not currently implementing blended or online learning, or you are in the planning stages, you will only need to complete a few short questions.

If you include your email address in your survey response, we will share summary results with you once the survey closes. In addition, a final report will be distributed in June 2012 that will focus on actionable policy and practice ideas that the legislature, Colorado Department of Education, and school leaders may consider in order to bring 21st century learning opportunities to students across Colorado.

The survey will be open from Monday, April 2 through Sunday, April 22. You may return to the survey at any time and modify your answers, but once it is submitted you will not be able to access it again.

1. Please tell us more about you and your district or BOCES:

a) Your name:

b) Your title:

c) City/Town:

d) Email Address:

e) Phone Number:

2. What school district, BOCES, or other organization do you work for?

a) School District

b) BOCES

c) Other (please specify)

3. If school district, which one:

a) Dropdown box with 139 rural Colorado districts

b) Other (please specify)

4. If BOCES, which one:

a) Dropdown box with all Colorado BOCES listed

b) Other (please specify)

5. Have your teachers and/or administrators participated in any professional development in online or blended learning teaching methods?

a) Yes

b) No

c) If yes, please provide additional details

6. Have your teachers and/or administrators participated in any professional development delivered through online or blended learning technology?

a)Yes

b) No

c) If yes, please provide additional detail:

Students participate in online/blended learning?

For the purposes of this survey, please note the following definitions. The first four blended learning categories and definitions come from upcoming research to be released by the Innosight Institute in April or May 2012.

Full-time Online: Students take all their courses online, and away from a school.

Blended Learning: Online learning that typically takes place at school and includes some element of student control over time, place, path, or pace. This survey uses five categories of Blended Learning (for the purposes of this survey, we consider video conferencing a form of blended learning):

Rotation: a program in which within a given course or subject (e.g., math), students rotate on a fixed schedule between learning modalities, at least one of which is online. Other modalities might include activities such as small-group

or full-class instruction, group projects, individual tutoring, and pencil-and-paper assignments.

Flex: a program in which the Internet is primarily responsible for delivering instruction and content to students at the brick and mortar school, and students move on an individually customized, fluid schedule among learning modalities.

Self-Blend: any time students choose to take one or more courses entirely online to supplement their traditional courses. (e.g., through Colorado Online Learning).

Enriched Virtual School: a program in which for any given course (e.g., math), students divide their time between attending a brick-and-mortar campus and learning remotely using online delivery of instruction and content.

Video Conferencing

What is not online or blended learning?

Participation in supplemental electronic activities or technology-rich activities that don't fit the definitions above, and don't provide some element of student control, do not count as blended learning. Having SmartBoards or iPads in the classroom, for example, does not necessarily fit the definition of blended learning.

7. Do students in your district or BOCES participate in online or blended learning?

a) Yes (go to Question 9)

b) No (go to Question 8)

Districts and BOCES not currently participating in online or blended learning

8. Is your district currently discussing or planning to implement online or blended learning?

a) Yes

b) No

c) If you answered yes, please tell us more about your plans

Districts and BOCES currently participating in online or blended learning

9. If you have a URL for your online or blended program, please list here:

10. Which online or blended learning models are being utilized in your district or BOCES? (refer to earlier definitions) [Check all that apply]

a) Fully online

b) Rotation

c) Flex

d) Self-blend

e) Enriched Virtual

f) Video Conferencing

g) Don't know

h) Other (please specify):

11. How many schools in your district or region are implementing online or blended learning?

12. Students in which grade levels participant in online or blended learning in your district or BOCES? [choose all that apply]

a) Grades K-5

b) Grades 6-8

c) Grades 9-12

d) Comments

13. How many students in your district or BOCES participate in online or blended learning during the 2011-2012 school year?

14. How many students in your district or BOCES took online or blended learning courses during the summer of 2011?

15. What types of students are served by your online or blended program(s) in your district or BOCES? [choose all that apply]

a) Adult learners

b) Credit recovery

c) Advanced Placement

d) Core courses

e) Gifted/talented

f) Electives

g) Technical

h) Dual credit

i) Other (please specify)

Content

We would like to know more about the online content you use. While you might use many different types of content, please answer these questions for the majority of the content for each delivery method.

16. If you offer fully online courses, is your online content: [choose all that apply]

a) Developed in-house by teachers

b) Developed in-house by course designers

c) Purchased from an external provider

d) Open Education Resources

e) Other (please specify)

17. If you offer blended courses, is your online content: [choose all the apply]

a) Developed in-house by teachers

b) Developed in-house by course designers

c) Purchased from an external provider

d) Open Education Resources

e) Other (please specify)

18. Is the online content in your blended courses primarily used as a supplement, or as the primary content for those courses?

a) Yes

b) No

c) Other (please specify)

19. If you use external providers for blended/online course content, which providers do you use? [Choose all that apply]

a) Accelerate Education

b) Advanced Academics

c) Apex

d) Class.com

e) Connections Learning

f) Cyber High

g) Discovery Learning

h) Education 2020

i) Florida Virtual School

j) Houghton-Mifflin

k) K12, Inc./Aventa Learning

l) LearningMate

m) McGraw Hill

n) NovaNet (Pearson)

o) Odysseyware

p) Plato Learning

q) Other (please specify)

20. If you use open education resources in your online/ blended courses, which resources do you use? [choose all that apply]

a) iTunes University

b) Khan Academy

c) MIT Open Courseware

d) National Repository of Online Courses (NROC)

e) Other (please specify)

Outcomes

21. What impact has online/blended learning had on student outcomes?

Resources

22. What obstacles or barriers prevent you from starting or growing your online or blended program?

23. What resources, if any, could CDE or other state level organization provide to help with implementation of online and blended learning in your district or region?