

**ALASKA STATE LEGISLATURE  
JOINT MEETING  
SENATE EDUCATION STANDING COMMITTEE  
HOUSE EDUCATION STANDING COMMITTEE**

February 6, 2017

8:01 a.m.

**MEMBERS PRESENT**

SENATE EDUCATION STANDING COMMITTEE

Senator Shelley Hughes, Chair  
Senator Gary Stevens  
Senator Cathy Giessel  
Senator John Coghill  
Senator Tom Begich

HOUSE EDUCATION STANDING COMMITTEE

Representative Harriet Drummond, Chair  
Representative Justin Parish, Vice Chair  
Representative Zach Fansler  
Representative Ivy Spohnholz  
Representative Jennifer Johnston  
Representative Chuck Kopp  
Representative David Talerico

**MEMBERS ABSENT**

SENATE EDUCATION STANDING COMMITTEE

All members present

HOUSE EDUCATION STANDING COMMITTEE

Representative Geran Tarr

**OTHER LEGISLATORS PRESENT**

Representative Dan Ortiz

**COMMITTEE CALENDAR**

PRESENTATION: BROADBAND ACCESS AND VIRTUAL EDUCATION IN SCHOOL DISTRICTS

- HEARD

**PREVIOUS COMMITTEE ACTION**

No previous action to record

**WITNESS REGISTER**

LISA SKILES PARADY, Ph.D., Executive Director  
Alaska Council of School Educators (ACSA)  
Alaska Superintendents Association (ASA)  
Alaska Association of Secondary School Principals (AASSP)  
Juneau, Alaska

**POSITION STATEMENT:** Presented information on broadband access and virtual education in school districts.

ROBERT WHICKER, Ph.D., Director  
Consortium for Digital Learning (CDL)  
Alaska Association of School Boards (AASB)  
Juneau, Alaska

**POSITION STATEMENT:** Presented information about broadband access and virtual education in school districts.

SEAN DUSEK, Superintendent  
Kenai Peninsula Borough School District (KPBSD)  
Soldotna, Alaska

**POSITION STATEMENT:** Presented information on KPBSD's broadband access.

AMANDA ADAMS, Teacher  
Distance Education  
Kenai Peninsula Borough School District (KPBSD)  
Seward, Alaska

**POSITION STATEMENT:** Presented information on virtual education in KPBSD.

MIKE FLECKENSTEIN, Chief Information Officer  
Anchorage School District (ASD)  
Anchorage, Alaska

**POSITION STATEMENT:** Presented an overview of virtual learning in the ASD.

DAN WALKER, Superintendent  
Lower Kuskokwim School District (LKSD)  
Bethel, Alaska

**POSITION STATEMENT:** Presented information about LKSD's distant learning network.

TY MASE, Superintendent  
Lake & Peninsula School District (LPSD)  
King Salmon, Alaska

**POSITION STATEMENT:** Presented information on targeting student success through university collaboration and tutoring interventions.

ROB PICOU, Ph.D., Superintendent  
Lower Yukon School District (LYSD)  
Mountain Village, Alaska

**POSITION STATEMENT:** Presented information on technology access and cost in LYSD.

AMY EAKIN  
Director of Technology  
Northwest Arctic Borough School District (NWABSD)  
Kotzebue, Alaska

**POSITION STATEMENT:** Presented information on broadband access and programs in NWABSD.

BRETT AGENBROAD, Superintendent  
Pribilof School District (PSD)  
St. Paul, Alaska

**POSITION STATEMENT:** Presented information regarding PSD's broadband capabilities.

#### **ACTION NARRATIVE**

[8:01:28 AM](#)

**CHAIR DRUMMOND** called the joint meeting of the House and House Education Standing Committees to order at 8:01 a.m. Present at the call to order were Senators Giessel, Begich, Coghill, Stevens and Chair Hughes, and Representatives Kopp, Parish, Johnston, Fansler, Spohnholz, Talerico, and Chair Drummond.

#### **PRESENTATION: BROADBAND ACCESS AND VIRTUAL EDUCATION IN SCHOOL DISTRICTS**

[8:03:31 AM](#)

**CHAIR HUGHES** announced that the only order of business would be presentations on Broadband Access and Virtual Education in School Districts. She said today school districts will be weighing in on the topic. She noted that virtual education has provided an exciting opportunity for students throughout Alaska

to have access to quality education without having to be physically present in the classroom. However, many rural districts have difficulties with access to basic internet, let alone, high quality virtual education through synchronous learning.

[8:04:08 AM](#)

LISA SKILES PARADY, Ph.D., Executive Director, Alaska Council of School Educators (ACSA), Alaska Superintendents Association (ASA), Alaska Association of Secondary School Principals (AASSP), Juneau, Alaska, presented information on broadband access and virtual education in school districts. She told a story of technology failure for a district-wide in-service in the North Slope and the need to have Plan B.

[8:06:13 AM](#)

REPRESENTATIVE SPOHNHOLZ asked for clarification on the differences between distance education and virtual education.

DR. PARADY deferred to superintendents and districts to answer.

CHAIR HUGHES called Dr. Whicker to answer the question about virtual education.

[8:07:51 AM](#)

ROBERT WHICKER, Ph.D., Director, Consortium for Digital Learning, Alaska Association of School Boards, presented information about broadband access and virtual education in school districts. He defined virtual education as "someone somewhere else delivering instruction or content." He added that it may be delivered through a variety of means.

[8:08:26 AM](#)

At ease

[8:10:20 AM](#)

DR. PARADY introduced the first presenter, Mr. Dusek.

[8:10:47 AM](#)

SEAN DUSEK, Superintendent, Kenai Peninsula Borough School District (KPBSD), presented information on KPBSD's broadband access. He related that 97.6 percent of their schools exceed 100Mbps per 1,000 students, the current national standard. They are striving to have 1Gbps per 1000 students. Of 44 schools, 66.67 percent are on fiber infrastructure. He wished to have all schools on fiber, since microwave and copper are much more expensive. He related that E-rate service costs about \$1 million

per year and the district receives a subsidy of \$683,000 for it. Since 1998 the district has received over \$10.9 million in E-rate support. He said there is a special opportunity through E-rate to build up their non-fiber site.

8:13:19 AM

MR. DUSEK showed a graph of KPBSD programs and distinguished between online courses, video conferencing, and blended learning. The online courses have evolved over 10 years and are asynchronous, such as through email, and are considered distance education. Video-conferencing is part of the virtual world area, such as Polycom, Skype for Business, Student Collaboration and Teacher Collaboration. He noted the importance of Skype for Business, now and in the future, for presentations and for professional development.

He said they are also moving into the world of blended learning, a combination of live classrooms and "anytime/anywhere learning" with the use of Canvas and Digital Parallel. He used Seward High School as an example where they have hybrid high school - all teachers have created a digital parallel to all classes. He discussed the advantages of that medium for students who are not in the school.

8:16:18 AM

MR. DUSEK addressed student program data. He spoke of the positive impacts of distance education courses. Many colleges now have online courses and this type of course helps prepare students for that type of learning.

He shared information about Canvas staff program data usage. In the fall of 2015 only 29 teachers were involved in this project; now 283 are involved. He expected it to be completely in place by next year. He provided a story of a teacher in Seward who makes good use of on-line access.

8:18:43 AM

AMANDA ADAMS, Teacher, Distance Education, Kenai Peninsula Borough School District (KPBSD), presented information on virtual education in KPBSD. She shared the six key components of distance learning in KPBSD: relationships, teaching, personalization, differentiation, content, connectivity. She detailed the importance of relationships.

8:20:14 AM

CHAIR HUGHES recognized the presence of Representative Dan Ortiz.

MS. ADAMS explained the teaching component and the feedback cycle, and she noted the teacher pupil ratio is the same as in the classroom. She discussed the difference between canned and curated courses, which KPSBD uses. Distance Education augments the system and offers options to students. She gave an example of a gifted student's use of podcasts.

She talked about differentiation and how the setting and content must be adjusted for students. She related the limits to distance learning and the need to have a variety of delivery mechanisms. She provided examples of content delivery.

She talked about connectivity and provided examples. She stressed the importance of equity in distance learning. She concluded with the need for on-the-ground support.

[8:25:16 AM](#)

MR. DUSEK concluded by saying that their presentation was just a taste of what is happening in KPBSD. He offered to have board members share specifics and students share their perspectives.

[8:26:44 AM](#)

CHAIR HUGHES thanked Mr. Dusek.

[8:27:08 AM](#)

MIKE FLECKENSTEIN, Chief Information Officer, Anchorage School District (ASD), presented an overview of virtual learning in the ASD. He showed the continuum of virtual learning; extended learning, personalized learning, and virtual choice. He began with extended learning which includes online assessments, practice and reinforcement, online writing instruction and feedback, and digital textbooks (most structured to least structured). He pointed out that digital textbooks are one of the first steps toward virtual learning and are always up to date.

[8:29:38 AM](#)

MR. FLECKENSTEIN turned to Personalized Learning, a multi-tiered system of supports, including acceleration and intervention. It has adaptive content and assessment and maximizes the benefits of technology and instruction. He shared data about the number of ASD students in personalized learning for math and language arts. He listed several programs they use. He noted growth of 1.5 years to 2 years with the use of these programs.

[8:32:32 AM](#)

MR. FLECKENSTEIN discussed Virtual Choice; anytime, anywhere, any pace instruction. It consists of fully online courses. He shared the metrics related to the use of ASD Virtual Choice - Apex and iSchool. He related the amount of bandwidth that ASD currently has and what it will have in May of 2017. It will double in May and the cost will be reduced due to a new contract. He noted the State Educational Technology Directors Association (SETDA) recommendation for connectivity.

[8:35:33 AM](#)

MR. FLECKENSTEIN concluded with issues regarding ASD virtual learning investments, including connectivity, device refresh, curricular updates, and professional development. He stressed the importance of the teacher's role.

[8:37:49 AM](#)

DAN WALKER, Superintendent, Lower Kuskokwim School District (LKSD), presented information about LKSD's distant learning network. He described LKSD and showed pictures of what distant learning looks like in a teaching studio. He shared the connectivity abilities of their broadband, which is prioritized to ensure that video conferencing is the priority. He showed several slides of students in remote villages taking classes.

MR. WALKER shared innovative programs taking place in LKSD, such as robotics and Lego League teams. He described the logistics of providing distance education over 21,000 miles. He talked about the USDA Rural Utility Services grants that help offset some of the cost of equipment. Those monies are coupled with foundation funds to stay current with technology.

He described the amount of bandwidth in the district; a 300Mbps connection to the Internet, which averages out to about .07Mbps per student. The national standard is 1Gbps of internet connectivity per 1000 students. LKSD is at 7 percent of that. He concluded by stressing the importance of the state's involvement with funding broadband. The district pays about \$28 million a year for internet and wide area network connectivity with 90 percent of that reimbursed through the E-rate program. He noted the district does not share its dedicated bandwidth with the communities.

[8:46:24 AM](#)

CHAIR HUGHES thanked Mr. Walker and commented that he is doing a lot with a little.

[8:46:32 AM](#)

TY MASE, Superintendent, Lake & Peninsula School District (LPSD), presented information on targeting student success through university collaboration and tutoring interventions. He described LPSD, a district that does not have fiber and where all internet is operated by satellite. He said they rely on on-line tutoring and counseling, in-district and out-of-district online courses. They also have on-line professional development offered through Adobe Connect. He showed a video of student use of university collaborations and interventions.

[8:51:46 AM](#)

MR. MASE noted the district works with several universities for on-line tutoring for 50-plus students every week. He shared that they have over 70 students taking in-district online courses and several dozen doing out-of-district courses.

He concluded that they do a lot with what they have and are very proud about what they do. He noted they are struggling to maintain their programs and budget and grant cuts would put them in jeopardy.

CHAIR HUGHES thanked Mr. Mase.

[8:54:05 AM](#)

ROB PICOU, Ph.D., Superintendent, Lower Yukon School District (LYSD), presented information on technology access and cost in LYSD. He described the school district and shared their learning goals and how much bandwidth is needed at each goal level. He described the need for high-speed connectivity and how far LYSD is from having it.

He noted connectivity has been improving in rural Alaska since 2013, however, LYSD is not meeting the minimum 100kbps/student goal. He showed a graph of what is needed for basic internet service per student, 1:1 internet, media rich environments, and the levels currently in each LYSD community. He noted last year they were well below the minimum; this year they have increased from 5 Mbps per school to 15 Mbps per school.

He shared their goals for the future and mentioned that their schools have significant dead spots.

[8:59:23 AM](#)

DR. PICOU commented on the cost for inadequate and adequate broadband access. He said 90 percent of their cost is paid by E-rate. He broke down the current costs per student. He quoted the Atlantic Journal 2015 regarding Alaska's Disconnected Schools:

"On average, K-12 schools have 246 kbps of internet connectivity - a third of what most people on the mainland U.S. need to stream Netflix."

9:00:56 AM

DR. PICOU concluded with observations on the limits to basic network usage and LYSD's needs:

Limited to basic network usage.

Extremely limited on internet based applications.

To accomplish a single video call, live with other schools in the District or outside of the District, requires prioritization of traffic. When providing a 2 Mbps video conferencing priority, we take those 2 Mbps from our total and restrict access to students all across the district. The Kbps for each student is reduced.

Synchronous distance learning, such as video conferencing, and asynchronous distance learning, such as web-based credit recovery programs are very challenging without greater broadband access.

Limited Expertise and Leadership.

LYSD needs a significant investment in networking infrastructure, which includes access points, hardware in the hands of students, learning applications, and staff development.

AMY EAKIN, Director of Technology, Northwest Arctic Borough School District (NWABSD), presented information on broadband access and programs in NWABSD. She said NWABSD provides several types of virtual education for students region wide: video teleconferencing, Canvas - a learning management system, Acellus - a supplemental virtual blended learning program, and adaptive language arts and mathematics curriculum. She concluded that NWABSD will continue to provide virtual education to serve students living in remote areas in NWABSD's isolated geographical area. Virtual education allows equal access to high quality, rigorous education to all students. She described the increase in broadband services over the past five years.

She maintained that the district has an increased need for staff and training, higher bandwidth needs and lower latency networks. The district will continue to find innovative ways to provide the best education to students as possible. She contrasted their small amount of connection compared to Anchorage and stressed that they are in dire need of better infrastructure for their region.

9:07:35 AM

BRETT AGENBROAD, Superintendent, Pribilof School District (PSD), presented information regarding PSD's broadband capabilities. He described his school district's small size and remote location. He said TelAlaska is providing satellite services and described upload congestion problems. He noted they do not have many distant opportunities; they mainly use internet for student assessment - programs such as STAR, Dibbles, Publishers Information, and MAP testing. They have very little virtual learning. They have problems with teacher turnover and the difficulty of finding a highly qualified math teacher. They use standardized, canned programs that provide math courses. The district has to reduce its use of the internet while the math classes are going on. The six faculty have a hard time watching videos for staff development due to congestion problems.

9:12:05 AM

MR. AGENBROAD said internet costs run about \$34,000 per month. Those costs are covered by E-rate, grants, and district funds. He requested that his faculty write testimonials regarding internet use problems. He read several letters showing problems due to lack of connectivity. He concluded that it is not an option to use virtual education in the PSD.

9:15:15 AM

CHAIR HUGHES thanked Mr. Agenbroad and said they understand his frustration over load times.

She asked all presenters to write down the questions the committee members will now ask and respond to them.

She began by asking how much it would cost to bring infrastructure up to the point they need. She also asked whether districts have looked into the new E-rate infrastructure programs and are expecting to access the USDA utility grants.

9:16:29 AM

SENATOR BEGICH asked what impact a Quintillion fiber optic line would have in lowering costs of delivering internet to areas

that extended beyond Kotzebue, past Bethel, and into Lake & Peninsula area.

[9:16:55 AM](#)

REPRESENTATIVE FANSLER asked how many providers for internet are in the area and what connectivity is in the community, in general.

CHAIR HUGHES noted that these questions can be found later on akleg.tv.

REPRESENTATIVE JOHNSTON asked, in a perfect world, will distance education be able to bridge the gap between structure and discipline and that of higher achievement - educationally.

[9:18:08 AM](#)

SENATOR STEVENS asked what the goal is regarding equality and equity.

[9:18:55 AM](#)

REPRESENTATIVE PARISH asked if there is a relationship between the ability to retain highly qualified teachers and the amount of broadband available to the school, district, and community.

[9:19:31 AM](#)

ROBERT WHICKER, Ph.D., Consortium of Digital Learning (CDL), Alaska Association of School Boards, began his presentation about broadband use in school districts. He said broadband is a crucial aspect moving forward to modernize the way we educate our children.

CHAIR HUGHES asked if Dr. Whicker wanted to answer the committee's questions.

DR. WICKER suggested he provide basic information about technology and bandwidth from his wide education experience. He shared his background as a teacher/coach, principal, superintendent, homeschool support director, and charter school dean of students over 40 years. He emphasized that technology and bandwidth has been at the center of all that.

He said he has also worked for a major technology company as a business education development executive in eight states and worked with the smartest people in educational technology in those states. During that time, he helped initiate AASB's Consortium for Digital Learning (CDL), a national model. He said he has also served on the Alaska Statewide Broadband Task Force.

He stated, "With all of that, I've learned that the more I study and learn, and the older I get, the less I know." He maintained that there are not simple answers. He thanked the committee for taking on this challenge and serving the state.

DR. WHICKER noted that he has a Ph.D. from the University of Alaska Fairbanks in Transformational Leadership in Technology. His cohort of students included Dr. Pam Lloyd, Dr. Mark Standley, and Dr. Larry Ledoux. He said they all studied the one-to-one laptop programs in Alaska from four different areas. They gained much knowledge on the status of schools with digital learning, teacher perspectives, broadband utilization, and practices that support or detract from successful implementations.

He said he is not a technical expert, although he has access to many. He considers himself a power user and innovator.

DR. WHICKER shared what he learned in the Consortium where they initiated one-to-one technology programs in over 140 schools. He said they laid the groundwork where technology is going and has gone. The successful implementations across the state are ones that advanced digital learning by controlling variables that are under their control and working around those that aren't. Sometimes that means learning to use the broadband you have in order to amplify and accelerate learning with the technology available.

He opined that having enough broadband depends on what the district wants to do. If we're going to establish a distance delivery or blended learning model utilizing online learning, then districts need to establish the kinds of learning activities they desire for their children, and then get that bandwidth requirement. He said the best analogy he has is that "we need a highway that has enough lanes to keep things moving for the traffic that uses it."

He noted that the thirst for more broadband is constant and never ending and we are impatient with it. Slow internet is painful, waiting for content on the web as it buffers or times out. In a learning environment, on-task time is very precious; students waiting for buffering or long log-in times waste learning time. In schools, network management of that precious bandwidth helps in reaching goals. Internal connections and Wi-Fi networking also need to be optimized, but the bandwidth and the network management determine the learning activity for the child. The teacher does not get to make the decision.

9:26:10 AM

DR. WHICKER turned to a handout with four examples regarding use of bandwidth in instruction and important lessons learned:

- An on-site adult to supervise learning and who is good with kids is crucial, success of coursework is greatly dependent on that person.
- Streamlined administration through a central provider (in this case the Academy) takes much effort off, and provides needed expertise to the end-user site. He noted four districts that have worked hard in this area through the Digital Initiative Program: Kodiak, Ketchikan, Kenai, and Copper River.
- Constant communication between the provider and onsite is needed, relationships must be established with both teacher and student.

He noted school districts are doing some great things. He used Kodiak Island School District as an example. He also mentioned other districts use video conferencing studios and mobile robots using telepresence.

9:27:55 AM

DR. WHICKER stated that barriers to the use of broadband in schools fall into two categories - technical/physical barriers and non-technical barriers. Technical/physical barriers are those such as satellite latency and student access to physical hardware. Non-technical barriers are those such as lack of technical expertise, cost of broadband, implementation without adequate support system, and ill-suited desires to use technology without an adequate amount of bandwidth available.

DR. WHICKER pointed out that there is a series of Gavel to Gavel TV spots on districts that emphasize innovations and efficiencies, most all having technology and the use of broadband as an integral component. He said that schools most always max out the broadband they have and when they get more, they use it for meaningful activities. The availability of enough broadband and the network management of it often determines how a student learns digitally. The majority of Alaska's students do not have access to a device-per-learner environment. There is also a large discrepancy on student access to broadband for rural schools for several reasons. Many districts in the state see 1) the use of technology and

broadband with 2) a high-quality teacher, in (3) a classroom or remotely, as being crucial to delivering quality educational opportunities to Alaska's children.

He provided a handout of his presentation to the committee and said he is available for further questions.

CHAIR HUGHES requested his contact information. She noted the committee's desire to hear the broad range of broadband use, from meaningful successes to challenges. She drew attention to written submissions from the following school districts: Juneau, Nome, Nenana, Bristol Bay, North Slope, and Hoonah.

[9:32:11 AM](#)

There being no further business to come before the committee, Chair Drummond adjourned the joint meeting of the Senate and House Education Standing Committees at 9:32 a.m.