

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

April 1, 2009
12:09 p.m.

MEMBERS PRESENT

SENATE EDUCATION STANDING COMMITTEE

Senator Kevin Meyer
Senator Joe Thomas

HOUSE EDUCATION STANDING COMMITTEE

Representative Paul Seaton, Chair
Representative Cathy Engstrom Munoz, Vice Chair
Representative Robert L. "Bob" Buch

MEMBERS ABSENT

SENATE EDUCATION STANDING COMMITTEE

Senator Bettye Davis, Vice Chair
Senator Charlie Huggins
Senator Donald Olson
Senator Gary Stevens

HOUSE EDUCATION STANDING COMMITTEE

Representative Bryce Edgmon
Representative Wes Keller
Representative Peggy Wilson
Representative Berta Gardner

OTHER MEMBERS PRESENT

Representative David Guttenberg

COMMITTEE CALENDAR

Rebooting Education: Digital Learning in Alaska's Classrooms

PREVIOUS COMMITTEE ACTION

No previous action to record.

WITNESS REGISTER

CARL ROSE, Executive Director
Association of Alaska School Boards (AASB)
Juneau, AK,

POSITION STATEMENT: Talked about the importance of technology to education in the 21st century.

SARAH MARINO, Teacher
Yaakoosge Daakahidi Alternative High School
Juneau, AK

POSITION STATEMENT: Talked about the impact of the "One-to-One" laptop distribution program at Yaakoosge High School.

LAURY SCANDLING, Assistant Superintendent
Juneau School District
Juneau, AK

POSITION STATEMENT: Discussed technology in learning.

MARK BROWN, Tech Team Member
Yaakoosge Daakahidi Alternative High School
Juneau, AK

POSITION STATEMENT: Shared his experiences with the laptop distribution program.

BRIAN SONESEN, Tech Team Member
Yaakoosge Daakahidi Alternative High School
Juneau, AK

POSITION STATEMENT: Shared his experiences with the laptop distribution program.

JERALL TORRES, student
Yaakoosge Daakahidi High School
Juneau, AK

POSITION STATEMENT: Shared his experiences with the laptop distribution program.

DR. DAVID L. SILVERNAIL, Researcher
University of Southern Maine
Portland, ME

POSITION STATEMENT: Presented the Maine Learning Technology Initiative (MLTI).

ACTION NARRATIVE

[12:09:11 PM](#)

CHAIR SEATON called the joint meeting of the Senate and House Education Standing Committees to order at 12:09 p.m. Present at the call to order were Representatives Buch and Seaton.

Rebooting Education: Digital Learning in Alaska's Classrooms

[12:09:41 PM](#)

CHAIR SEATON announced the business before the committee is a presentation on rebooting education.

CARL ROSE, Executive Director, Association of Alaska School Boards (AASB), Juneau, AK, stated that we are in the midst of a global cultural revolution. Webster defines a culture as "an integral pattern of human knowledge, beliefs and behavior that depends on man's capacity for learning and transmitting knowledge to succeeding generations." Looking at world trade, goods and services, distribution, manufacturing, time and distance, communication, and relationships among cultures ... at this new and emerging reality, he said, it is not possible to tell today's youth what to expect in the future. He stressed how important it is for the classroom to reflect the environment in which students live.

The Consortium for Digital Learning is an opportunity to create pilot programs across the state but getting sufficient bandwidth in classrooms to make it possible to use technology for learning is difficult. He turned the presentation over to Sarah Marino to discuss Yaakoosge's experience with technology in the classroom.

[12:12:17 PM](#)

SARAH MARINO, Teacher, Yaakoosge Daakahidi Alternative School, Juneau, AK, has taught at Yaakoosge for four years and will be principal there next year. The name "Yaakoosge Daakahidi" means "house of knowledge" and was given to them by the Tlingit elder, Anna Katzeek. They have about 150 students who come to them from Juneau and from out of state. One of things all of the students have in common is that they did not find success in the mainstream school system and most have pretty big gaps in their educations. It is a very diverse group, so in this one small school they have a number of challenges to meet as educators. About 50 percent of the students are Alaska Native; a large part of the student body qualifies for free and reduced lunches; many of the students are homeless and about 40 percent qualify for special education services. They have found that having access to technology has helped many of the students and teachers to find success.

MS. MARINO continued; Yaakoosge started their "One-to-One" program in the fall of 2006 and saw an immediate improvement in attendance. On the survey they conducted a year later, almost 40 percent of the students said access to the laptops was significant in motivating them to come to school. For students who have not found success in education before, that is fantastic! Many of these students skipped school for months at a time so to motivate almost half of them to attend regularly is really exciting. Their most impressive statistic however, is that 90 percent of their students had an increase in their GPA last year. On their annual spring survey, students claimed that the laptops helped them with research and organization and allowed them greater creativity and the opportunity for hands-on learning. Technology helps students find their learning style and do the work in the way that works best for them.

Research is an area in which technology is most helpful. Text books are out of date the moment they are printed; using a laptop, students and teachers can find information from diverse sources that is so current it may not even have been published in magazines yet. What is most exciting however is that this technology has made the world accessible to their students; it has allowed them to be involved in nationwide, even worldwide conversations. It has opened up incredible leadership opportunities to them as well; Yaakoosge cannot afford a dedicated IT staff person, so they formed a student-led tech team that provides user support to other students and even staff. Laptops and technology are the tools to create life-long learners. There is no way she can educate these kids in everything they will need to know in the world but if she can teach them how to learn, how to use these tools, they can figure it out.

12:20:31 PM

LAURY SCANDLING, Assistant Superintendent, Juneau School District, Juneau, AK, was the principal at Yaakoosge Daakahidi Alternative High School for four years and was a high school administrator for nine years prior to that. She reflected that not having electronic technology at students' fingertips is like asking her or the legislature to do their jobs without their technical tools. Kids are way ahead of her generation, she said, in terms of their intuitive and natural use of technology but a laptop is just a tool and is only a good investment if it enhances learning achievement to a greater degree than other tools.

MS. SCANDLING said that it was particularly challenging at Yaakoosge to expect and support excellent attendance and academic achievement. As the first recipients [of laptop distribution] in their district and among pilot programs in the state, AASB asked them to track data. They selected a cohort of kids and matched their performance during the spring prior to the program, when they had not had their hands on laptops, to their performance the following spring, after a year of working with laptops both their attendance and their GPAs had improved. They also asked the students to report on their experiences with the program, expecting to hear that they enjoyed having the laptops to listen to their music or play games; what the students actually said is that they are better organized. One student said his life is in that notebook [laptop]; he doesn't lose homework any more. They also reported being better writers and writing for longer periods of time.

12:24:34 PM

CHAIR SEATON thanked Ms. Scandling and apologized to the presenters for the Senate Education Committee members' lack of attendance, explaining that the Senate was still in session.

12:25:04 PM

REPRESENTATIVE GUTTENBERG said the Denali School District has a laptop program. He asked if the Department of Education is evaluating and tracking the results of placing technology in various school districts.

MS. SCANDLING said that, to her knowledge, the state is not currently monitoring that information, but AASB is doing so through their requirement that One-to-One sites establish data points and collect the data over time. She deferred to Mr. Rose on AASB's housing and compilation of that data.

12:26:15 PM

MR. ROSE said they are contracting with the Institute of Social and Economic Research (ISER) to do baseline studies and provide a report; they have been collecting data for about a year and a half but do not have any conclusive information yet.

12:26:37 PM

REPRESENTATIVE BUCH asked Ms. Scandling about the extent of the technology they have available; do they have distance learning or real-time interactive learning, for example.

MS. SCANDLING said that this year they distributed 400 additional laptops to their freshman class. In conjunction with

the distribution of laptops, the Juneau School District paid to upgrade Internet access at all three high schools to facilitate that type of real-time interaction. They do not yet take advantage of live instruction outside of their district however; they have a home-school program that distributes laptops to participants who do access some of the interactive online courses offered by accredited institutions outside of the district.

[12:28:47 PM](#)

CHAIR SEATON mentioned that the University of Maryland recently moved to all digital textbooks; the professors say that students come to class with their books now because they always have their laptops with them. He suggested that the Alaska school districts might want to look at digital texts as a way to decrease expenses.

MS. MARINO said they don't use very many textbooks at Yaakoosge; they are primarily reference tools. They use EBSCO, a research database, to get peer review journals and articles and go to university web sites to gather information but do not have digital textbooks.

[12:30:40 PM](#)

MARK BROWN, Tech Team Member, Yaakoosge Daakahidi Alternative High School, Juneau, AK, said he has watched students download textbooks to their computers to get more updated versions and so they can more easily search for information in the books.

CHAIR SEATON wondered whether the Association of Alaska School Boards has looked at the possibility of digital texts as a cost-saving way to acquire up-to-date text books throughout the school system; he felt that might work well in conjunction with laptop distribution.

[12:31:47 PM](#)

REPRESENTATIVE BUCH brought up another issue that was raised by his constituency regarding loss of tactile skills such as hand writing. He asked if the students present would like to comment on that.

[12:32:59 PM](#)

BRIAN SONESEN, Tech Team Member, Yaakoosge Daakahidi Alternative High School, Juneau, AK, has been at Yaakoosge for two years. He remembers having to carry a stack of text books and write everything down in a notebook in cursive. He is very good at hand writing things, but since he has been using the laptop his

writing has become clearer because it is easier to keep up with his thoughts. He also finds the grammar and spell check features useful. He said he doesn't use the laptop for everything; he thinks it improves his spelling and grammar to write by hand, so he doesn't think the skill will be lost.

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MR. BROWN spoke for a friend who could not be with them today. His friend said that his hand writing is so horrid that his papers were often turned back to him because the teachers could not read them. Since getting his laptop, he's found that he is really a good writer and enjoys it. Mark admitted that he also has awful hand writing and doesn't like to do it but on the computer he enjoys creative writing and is actually working on a book.

12:36:22 PM

JERALL TORRES, student, Yaakoosge Daakahidi High School, Juneau, AK, introduced himself.

MS. SCANDLING said she is a certified teacher of English and former professional reporter, so note-taking was her second life for years. She wanted to make three quick points regarding how laptops can enhance the act of writing and thinking. One is that they see a greater fluency, which Brian put in his own words, for students who use computers to write. Second, those students who have physical struggles with writing will often resist writing, as Mark expressed. The ability to have that tactile function on a computer instead often unlocks those students who have resisted the activity because they feel that they are simply not good at it. And third, research shows that when teachers grade papers, the quality of a student's handwriting affects the grade that student gets, as opposed to the content of what is being written.

CHAIR SEATON asked if they have a speech translation program for students who have difficulty keyboarding.

MS. SCANDLING said the laptops do have that ability.

CHAIR SEATON asked if the feature is used very frequently.

MS. MARINO said that, although the translation is available on the laptops, all of their students prefer the keyboard.

12:38:58 PM

MR. BROWN commented that his grammar and vocabulary have improved since getting his laptop because he is more likely to look up words he isn't familiar with.

MS. MARINO added that the students have all prepared brief statements that she would like to give them the opportunity to share.

CHAIR SEATON encouraged them to present their statements.

REPRESENTATIVE MUNOZ joined the committee.

12:40:14 PM

MR. SONESEN said Ms. Marino asked him to think about why he believes the laptops are good for the school so he jotted down these thoughts.

In a world that works at getting everyone connected and talking to each other, technology has become a big part of education. Connecting schools far and wide, sharing experiences from the smallest town to the biggest city, laptops can send information at high speeds to connect people's lives through the Internet, introducing students to a new world that some would never experience. Replacing the need for paper in the classroom, laptops can help preserve the environment and save money for educational experiences outside the classroom.

The world looks to technology for advancements in medicine, music and even hobbies. Students today will end up in careers working for Apple or Dell or even starting their own computer companies. He has already become a teacher in some classes, he said, showing instructors how to better use new programs. Although lawyers and doctors are important to the needs of society, behind every new advancement in medicine, behind driving a car to work wherever that may be, is technology pushing innovation forward. Students will learn the new programs to design the new cars and help the deaf and blind be able to hear and see again. It all starts in classrooms with the students learning new programs and exploring the world from their laptops.

12:42:15 PM

MR. BROWN said he came from a school in Las Vegas, NV with 21 F grades and a bad attitude about learning. Since arriving at Yaakoosge he has gained a second family; he has earned awards in math and writing and now has only one C among A and B grades. He insists that having access to a laptop has been a large part of

his new success. He enjoys being able to look things up for himself rather than always calling for help and he actually likes coming to school now.

12:44:00 PM

MR. TORRES said he attended school in Reno, NV, before coming to Juneau. There he had almost no access to technology; the textbooks seemed irrelevant to him; school did not engage him and he dropped out entirely as a sophomore at 16. Coming to Yaakoosge and having access to the laptops has renewed his interest in school. He still doesn't enjoy reading textbooks but does enjoy researching the topics online for his school work; the information available on the web is more relevant, interesting and up-to-date than what he was getting in the texts. The laptop also helps with his music; the music that was playing at the beginning of the meeting is his, created on the laptops provided at school. He pointed out that computer skills are essential for almost any job today; technology is their future.

12:45:15 PM

MS. MARINO said that Yaakoosge received Apple's Distinguished School Award this year. The award is given to schools that have successfully incorporated technology into their learning environment.

12:45:56 PM

MR. ROSE introduced David Silvernail, a researcher from the University of Southern Maine, who was present via teleconference, to provide information about Maine's study into the impacts of technology on learning.

12:46:40 PM

DR. DAVID L. SILVERNAIL, Researcher, University of Southern Maine, Portland, ME, presented a short slide presentation titled "Research and Evaluation on the Maine Learning Technology Initiative (MLTI)."

Slide 1: Research and Evaluation of the Maine Learning Technology Initiative (MLTI)

Laptop Program

Inputs on Student Achievement

Dr David L Silvernail

Director of Research

Maine International Center for Digital Learning

Center for Education Policy, Applied Research & Evaluation

University of Southern Maine
March 2009

Slide 2: The Goal of Maine's Laptop Program

In 2002, Maine embarked on a bold new initiative, an initiative designed to transform Maine into the premier state for utilizing technology in kindergarten to grade 12 education in order to prepare students for a future economy that will rely heavily on technology and innovation.

(Task Force on Maine's Learning Technology Endowment, 2001, p. vi)

Slide 3: Overview of the Maine Learning Technology Initiative (MLTI)

Beginning in 2002 the State of Maine provided all middle school students and their teachers with laptop computers and provided schools technical assistance and professional development for integrating laptop technology into their curriculum and instruction.

Beginning in 2007, all high school teachers also received a laptop and are currently being offered professional development to enhance their use of the technology.

Current plans call for providing all high school students with laptops beginning fall 2009. That means adding another 53,000 kids to the initiative.

[12:49:45 PM](#)

DR. SILVERNAIL interjected that his office is responsible for the ongoing research and evaluation of the laptop program. They are an educational policy research institute which is funded partly by the legislature and partly by the university system so they are charged with providing education research and policy analysis for the education committee. The Maine legislature has requested in law that there be a longitudinal study of the impacts of the laptop program.

Slide 4: This slide shows a graph of teachers' assessments of the impact of laptops on their students learning, which reinforces some of the comments made earlier. It indicates that 60 percent or more of the teachers believe laptops have helped improve their students' learning; teachers reported that the quality of student work improved and that they showed a greater understanding [of the subjects]. One of the key questions they

asked teachers was how well the laptops helped their students achieve Maine's key learning standards and a large majority of teachers said the laptops helped them and their students achieve those standards.

DR. SILVERNAIL said he would like to point out three studies that were more focused on empirical evidence in addition to the teacher assessments. These studies demonstrate some of the important things the research is finding about the laptop program; these are some of the same things that the students were reporting.

The first study looked at the writing performance scores on Maine's statewide test prior to and then three years after the introduction of the laptop program. While many things can impact performance, the introduction of computers was the one common element across all the schools.

This study found that economically disadvantaged kids who used the laptops for writing, rather than as editing tools, outperformed economically advantaged kids who did not use them that way. They also had the opportunity to assess kids who wrote on the laptops and those who wrote in longhand and found that the improvement was across both modes of expression.

Slide 5: Impact Studies: 1. Maine's Middle Schools Laptop Program: Creating Better Writers

Study Design:

- Causal- comparative study
- Compared writing performance on statewide achievement test before and after introduction of laptops.

Results:

- Writing scores improved approximately 1/3 of a standard deviation.
- Twice as many students who used the laptops in the writing program met state proficiency standards as those who used laptops only as a "finishing" tool.
- Economically disadvantaged students outperformed economically advantaged students in some situations.
- Overall writing performances significantly improved both using a laptop and paper/pencil.

The next was a two-year study that he feels demonstrates the importance of providing professional development and support for teachers as they try to use laptops as a learning tool. The Maine Department of Education received a grant from the federal

government to do a random control (RCT) study using a very tight design with controlled, experimental classrooms; the results here were that teachers improved their knowledge and then changed some of their teaching behaviors around how to use the laptops in their teaching. They found that students in the experimental classrooms scored significantly higher not just on the tests designed for the study, but on the statewide mathematics test. This transferability is an important indication of understanding.

**Slide 6: Impact Studies: 2. Improving Mathematics Performance Using Laptop Technology:
The Importance of Professional Development to Success**
Study Design:

- RCT study on mathematics
- 2-year professional development program

Results:

- Teacher knowledge significantly improved
- Teaching practices and uses of technology changed.
- Students in experimental group classroom scored significantly higher on:
 1. Tests specifically designed for the study
 2. Statewide mathematics test

The third study is one in which they worked one-on-one with teachers, trying to design studies for their classrooms that would show the impacts. In this case they used animation to teach science concepts. There were three major results, one of which was that comprehension was higher among students who used the animation. Also, when students were assessed over a month later, they displayed higher retention rates.

Slide 7: Impact Studies: 3. Using Laptops to Facilitate Middle School Science Learning: The Results of Hard Fun

Study Design:

- Field-based quasi-experimental study
- Using animation to learn earth science

Results:

- Students using animation scored significantly higher on comprehension tests.
- Students who used animation had significantly higher retention scores.
- Students who used animation reported experiencing "hard fun".

In summary, he said they are seeing some long-term impacts, although they aren't necessarily immediate; they did not see some of these things in the first couple of years of the studies.

They have learned that there needs to be strong support for teachers. The technology needs to be appropriate to the goal; the laptop is not the best tool in all cases. He feels it is important to have an evaluation research plan in place so you can catch issues early and tweak the system, but also so that you can systematically track the impacts.

Finally, when talking to other states or school systems that are considering laptops, he emphasizes that they need to articulate and manage expectations. There is a general tendency to think that introduction of the technology and laptops will reform schools and, while these are tools that can help do that, they will not reform a school by themselves.

Slide 8: Lesson Learned: What Have We Learned From These Studies?

1. There must be a clear strategic vision and plan.
2. Teachers must receive strong, meaningful and sustained professional developments and support.
3. Technology use must be appropriate to the task and focused.
4. The technology must be used as a learning tool.
5. Assessments must match learning with technology.
6. There needs to be clear evaluation and research plans developed early in the initiative.
7. It is important to articulate and manage expectations.

Copies of MLTI research and evaluation reports are available on the following website:

<http://www.usm.maine.edu/cepare>

Inquiries may be directed to Dr. David L. Silvernail at:

Telephone: 207.780.5044

Email: davids@usm.maine.edu

12:59:35 PM

MR. ROSE thanked Dr. Silvernail and offered some closing comments. Technology, he said, is an equity issue. Young people who have access to technology have access to the world; those who do not, face an uphill climb. The issue of bandwidth is the same issue; Alaska doesn't have adequate bandwidth across the

state. It is important to be able to read, write and compute but kids today need to be able to access information, validate that it is good information and use it to create value. This is a moral imperative for people of our generation, to recognize the importance of technology and give that opportunity to the next generation. The school system must represent the environment in which these young people live.

1:01:22 PM

CHAIR SEATON asked Dr. Silvernail if Maine has gone to virtual textbooks.

1:01:49 PM

DR. SILVERNAIL said it varies across the state, but more and more schools are choosing not to issue new textbooks, especially in science, so it is happening gradually.

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CHAIR SEATON thanked Dr. Silvernail.

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REPRESENTATIVE BUCH asked the students present to describe how much time they spend studying using their laptops.

1:04:40 PM

MR. SONESEN said he remembers earlier years in school and having to carry around a heavy book bag; the laptop reduces that weight to about five pounds and is a real stress-reliever. He doesn't use it for all of his classes; they still have paper assignments in math and don't use the laptops much in art, but he does use it whenever possible. He uses it for research and writing; it allows him to provide a more professional and readable presentation. He probably uses the computer about four hours during the school day and ten hours total on the weekend.

MR. BROWN said he uses his laptop all day long. Even in math, where they don't do assignments on the laptop, he uses it to listen to music, which helps him concentrate on his math. All together, he uses it about five hours during the school day and about 3 hours after he gets home on week days. He uses it to run his personal janitorial business as well for his school work, so he probably uses it 75 percent of his time.

MR. TORRES said he probably uses it for 90 percent of his work at school; math is the only thing he uses a pencil for. He doesn't have take-home privileges for the school laptops, but

does have a computer at home, which he uses probably an hour each week day and five or six hours a day on weekends.

REPRESENTATIVE BUCH thanked the students again for coming forward and asked Ms. Marino how these young men were chosen to represent the school.

MS. MARINO said these gentlemen volunteered to come and are members of the Yaakoosge tech team or have done exceptional work in their Apple projects.

CHAIR SEATON expressed his thanks for helping the legislators understand what they do and how much the laptop project has helped with their studies.

1:10:28 PM

There being no further business to come before the committee, Representative Seaton adjourned the meeting at 1:10 p.m.