

**ALASKA STATE LEGISLATURE
HOUSE EDUCATION STANDING COMMITTEE**

March 12, 2012

8:05 a.m.

MEMBERS PRESENT

Representative Alan Dick, Chair
Representative Lance Pruitt, Vice Chair
Representative Eric Feige
Representative Paul Seaton
Representative Sharon Cissna
Representative Scott Kawasaki

MEMBERS ABSENT

Representative Peggy Wilson

COMMITTEE CALENDAR

PRESENTATION: SUPERINTENDENT SOUTHWEST REGION SCHOOL DISTRICT

- HEARD

PRESENTATION: PROPOSED MATHEMATICS-STATE EDUCATION STANDARDS

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

DAVID PIAZZA, Superintendent
Southwest Region School District
Dillingham, Alaska

POSITION STATEMENT: Provided the presentation of the Southwest Region School District (SWRSD).

LES MORSE, Deputy Commissioner
Office of the Commissioner
Department of Education and Early Development (EED)
Juneau, Alaska

POSITION STATEMENT: Testified during the presentation on Proposed Mathematics-State Education Standards.

ACTION NARRATIVE

8:05:34 AM

CHAIR ALAN DICK called the House Education Standing Committee meeting to order at 8:05 a.m. Present at the call to order were Representatives Seaton, Kawasaki, and Dick. Representatives Cissna, Pruitt, and Feige arrived while the meeting was in progress.

Presentation: Southwest Region School District

8:06:07 AM

CHAIR DICK announced that the first order of business would be a presentation by the Southwest Region School District (SWRSD).

8:06:39 AM

DAVID PIAZZA, Superintendent, Southwest Region School District (SWRSD), said it is with pleasure that he can share a snapshot of the students, staff, and community of his region. He paraphrased from a prepared statement, which read, as follows [original punctuation provided, but slide identification added]:

Southwest Region School District is currently comprised of 8 remote schools located in the communities surrounding, but not including the Bristol Bay Regional Hub of Dillingham in Southwestern Alaska. The District Office is located in Dillingham [slide 2].

The District is organized by the State as a Rural Education Attendance Area and serves approximately 632 students in four K-8 schools and four K-12 schools [slide 3].

The District is governed by a 7 member school board selected by the voters from the 8 communities.

The regional school board is advised by local 3 to 5 member Community School Committees.

Here students from the "Chief" Ivan Blunka School in New Stuyahok recite the Pledge of Allegiance in English and Yup'ik.

The Board has established 5 primary goals for the District [slide 4].

The School Board and District utilize the results provided by the recently completed Bristol Bay Area Visioning project as well as school improvement planning tools provided by the Alaska Department of Education [slide 5].

The District also utilizes the Association of Alaska School Board's Climate and Connectedness Student and Staff Survey results to gauge successes in addition to academic test results [slide 6].

Southwest Region Schools has had long term positive working relationships with the Dillingham City School District and the Bristol Bay Campus. Additional sharing between the 4 regional school districts has occurred previously. New efforts to coordinate Regional Health Services and Vocational Education opportunities have been pursued this year [slide 7].

The students, staff and communities of Southwest Region School District have benefitted from recent New School Construction: Manokotak 2001; Togiak 2004; New Stuyahok 2009 [slide 8].

As one of the named villages in the settlement of the Kasayulie case, the community of Koliganek looks forward to the construction of a new facility to replace its 1959-vintage structures [slide 9].

The district has caring and dedicated staff members who work tirelessly to meet the needs of students [slide 10].

[8:10:29 AM](#)

MR. PIAZZA read from a prepared statement, which read as follows [original punctuation provided, but slide identification added]:

Southwest Region School District awarded 32 High School Diploma's last year. What is often not reported or lost in the fine print of High School Graduation Rates are the students who take longer to complete the graduation requirements including the High School Graduation Qualifying Exam. Southwest has recently awarded three additional diplomas [slide 11].

The district has renewed and strengthened efforts the past three years following the State's Curriculum Framework to audit and establish curriculum fully aligned with Alaska Standards and Grade Level Expectations (GLE) for Reading, Writing, and Mathematics [slide 12].

To ensure consistent delivery of District curricula, the District utilized ARRA funds to increase Teacher and Instructional Aide in-servicing this year. This was the first time in over 14 years that all instructional aides received extensive hands-on training on the correct use of current curricular resources. Instructional Aides also received training on the use of laptop computers and digital cameras to assist them in helping to document our progress at sites [slide 13].

[8:11:29 AM](#)

MR. PIAZZA continued reading his statement corresponding to slides [original punctuation provided]:

The District is into its sixth year following the implementation of AASB's Consortium for Digital Learning project. The district used SFSF funds to refresh the District's One-to-One technology program and to expand the availability of technological tools to more students [slide 14].

One of the School Board Goals this year has been to revitalize the Yup'ik Language and Culture programs in the District. A director level administrative position has been created and staffed. A district-wide Yupik Studies Curriculum Development team has been established and is working to develop local, relevant instructional materials based on the traditional seasonal cycle. New teachers participate in a year-long multi-cultural class to understand the regional Yup'ik lifestyle and learning needs and to meet state certification requirements [slide 15].

The District has enhanced the school council through the implementation of several Youth Leadership Summits. This District is also proud of the fact that Tiarna Fischler from the Manokotak 'Nunaniq' school

sits as the student advisor on the State Board of Education & Early Development [slide 16].

Students have access to nutritious meals provided by the District. The District has coordinated efforts through various grant programs to include fresh fruits and vegetables for snacks and as part of the lunch service [slide 17].

Southwest Region Schools partners with Peter Pan Seafoods and the regional fishermen who donate a portion of their catch for the school lunch program. Salmon is served most Fridays [slide 18].

[8:13:48 AM](#)

MR. PIAZZA continued reading his statement corresponding to slides [original punctuation provided, but slide identification added]:

The District is proud that through its efforts positive trends in student achievement are being realized. While the students and staff have a tremendous amount of work ahead, its promising to see that with a consistent group effort that gains are possible [slide 19].

A similar positive achievement trend is demonstrated by students scores in Mathematics [slide 20].

The District has potential challenges to overcome. Like many rural communities, those in the Southwest Region School District are shrinking over time [slide 21].

Current student projections for the Clarks Point School of 6 students for the next school year will most likely force the school to close. The William "Sonny" Nelson School in Ekwok is also on the verge of closure due to low student counts [slide 22].

High energy costs continue to impact the availability of funds for the instructional program [slide 23].

Increased transportation costs limit the number of students who may participate in academic or athletic events. On-site staff in-services and the ability for

staff to travel to and from the schools has sharply declined. The cost of shipping continues to rise. It is usually the case that the shipping of student textbooks, paper, and school cleaning supplies is more than the costs of the products being purchased [slide 24].

While the District Media Specialist has worked very hard the past few years to make sure that our libraries are organized and functional for students and teachers, the schools do not have the staff resources to hire local staff to manage the day-to-day library functions [slide 25].

As the district focuses resources on the core academic subjects of Reading, Writing and Mathematics, the time and resources for teaching other content is not available [slide 26].

Whether schools receive funding through a multi-year approach or one-time revenue streams, the State must continue to provide adequate funding to ensure that all students have access to safe buildings, up-to-date educational resources, and the staff necessary to implement a 21st century learning environment if we are to continue to make positive educational gains [slide 27].

Mission

The Southwest Region School District is committed to all students receiving an education that continuously affirms human diversity that validates the history and culture of all ethnic groups, that is based on high expectation for academic success for every student, and that encourages students and parents active participation [slide 28].

[8:16:42 AM](#)

CHAIR DICK referred to slide [6], to the AASB School Climate and Connectedness Survey. He asked for clarification on the survey.

MR. PIAZZA answered students and staff completed the AASB's online survey to provide feedback to the district and the board of education regarding how the students find themselves connected to the community and the schools. It's used as an indicator for how the schools are functioning.

8:18:36 AM

REPRESENTATIVE SEATON asked whether the survey is segregated by students, staff and others.

MR. PIAZZA answered the survey is split by student and staff. He related slide 6 shows the May 2011 results. The SWSD just received the preliminary results from this year's survey, which will be compiled in a final report in May. An interesting aspect is that the students tend to provide more positive feedback than staff does, he said.

REPRESENTATIVE SEATON asked how the school district uses the data.

MR. PIAZZA answered that it's used in collaborative, principal, and board meetings throughout the SWSD.

8:20:15 AM

CHAIR DICK highlighted that the Southwest Region is not the only school district with schools of 10 students or less. The legislature works on alternative ways to address the issue. He offered that he does not want to see the small villages implode when they have less than 10 students. He asked whether it would be a viable option to close the physical building, but bring a certificated teacher to the village. He suggested that one solution may be to have a teacher act as a professional facilitator of a homeschool or correspondence program if the village could provide the facility. He offered his belief the students could receive a quality educational experience without leaving the village.

MR. PIAZZA said one of the issues in Clark's Point is the teacher housing - two trailer units - is backgroundfed out of the school. In order to retain a teacher at that site the SWRSD would need to put some funds into installing heating like a boiler and hot water in the housing unit. He related the solution currently being considered would be to retain a teacher at the Aleknagik School and have the teacher fly from Dillingham to Clark's Point - a five minute flight - on an occasional basis to provide on-site contact. Most of the instruction would be by correspondence. He characterized it as not being the ideal situation.

CHAIR DICK stated that other districts are included in this concern. He pointed out that the Iditarod school district has three schools with 10 students each so Southwest Region School District is not alone. He encouraged the Southwest Region School District to contact other superintendents for ideas and make suggestions to the legislature. He related the legislature is interested in working with the school districts, but at the same time the legislature must be fiscally responsible. He related his own experience, noting that when the school closed basically the village closed. He welcomed alternatives.

[8:22:59 AM](#)

REPRESENTATIVE SEATON asked for the graduation rate.

MR. PIAZZA answered it is officially is 50 percent.

REPRESENTATIVE SEATON noticed the school lunch program, but no breakfast program. He asked whether breakfast is being considered, whether there are cost considerations, and if the program would have a value.

MR. PIAZZA answered that Southwest Region School District (SWRSD) does not provide a breakfast program. The school district has held several discussions. The school board has felt the breakfast should be a responsibility of the communities and parents so the school district has not shifted funds to the program.

[8:24:33 AM](#)

CHAIR DICK asked whether he has any suggestion on how to improve the graduation rate.

MR. PIAZZA offered his belief that it would need to be a long-term solution. He suggested that part of the solution would be to have additional funds in the early childhood realm so students are ready for kindergarten and to get the students on track early. He highlighted one goal is to have them reading by third grade and protect the investment. He further suggested helping students with goal setting so they can see their career path after school may be helpful.

CHAIR DICK suggested, based on his experience of living in a village for 45 years, to perhaps convince students that they will be competing on a global scale. He pointed out honors students in India outnumber the total U.S. student population.

He highlighted that he just returned from California and noted the American Indian Charter School - which is comprised of all minorities - and every one of its students received a letter of acceptance from a four-year college or university. He reiterated enhancing student awareness globally may have a strong impact on them.

Presentation: Proposed Mathematics-State Education Standards

[8:27:22 AM](#)

CHAIR DICK announced that the final order of business would be: Presentation: Proposed mathematics - State Education Standards.

[8:27:29 AM](#)

LES MORSE, Deputy Commissioner, Office of the Commissioner, referred to a prepared statement which he read, as follows:

MR. MORSE suggested beginning by identifying academic standards. He stated that academic standards are technical documents written for teachers, writers of curriculum, and writers of assessments. The proposed standards use the technical terms of education, language arts, and mathematics. Mathematics in particular, especially in the higher grades use complicated technical terms and concepts. Alaska has state standards - as do all states - that were developed using a process that engaged stakeholders, which are required for funding from the Elementary and Secondary Education Act. If the state board were to adopt the standards, or any other standards, the department will contain parent guides that contain a summary - in plain English - as to what a student should know at each grade level for each content area.

[8:29:57 AM](#)

MR. MORSE stressed the importance of noting that even the Parent Teacher Association (PTA) guides that exist on standards at the upper grades, particularly mathematics do use complicated terms. The standards for mathematics explain what a student should be taught at every grade level. He emphasized that to understand the standards one needs to understand mathematics. They need to know how to teach mathematics and need to know about the development of children. Translating these complicated ideas and terms into understandable things for students is what teachers do - that's the art and craft of teaching - and what they do each day.

MR. MORSE explained what standards are not. The current standards and the proposed standards preclude standards in science, technology, engineering, and mathematics (STEM). They do not preclude cultural standards, career and technology education standards, and workplace readiness standards, and in fact, the department promotes integrating those standards. He clarified that the proposed standards are not curriculum. Standards do not tell teachers how to teach, which is determined by districts through curriculum and teachers.

[8:31:15 AM](#)

MR. MORSE stated the importance to know what is meant by college and career ready. He explained that college ready meant every type of schooling or training after high school, including military, union apprenticeships, vocational and career technical education certificates, associate's degrees, and bachelor's degrees. High school students should not have to take remedial courses for postsecondary training. Obviously students don't leave high school ready to be electricians and doctors. Career technical education advocates indicate three areas of preparation: one, academic preparation in high school; two, personal traits such as being on time, behaving and dressing appropriately, being able to be problem solvers and collaborators; three, training for specific careers. He highlighted that the proposed standards address the first issue. He asked the reason for establishing standards. Only about seven percent of the current ninth graders - without a change in trends - will receive a bachelor's degree within six years after leaving high school, which is cause for alarm. An indication of student's desire for postsecondary training is in the retention rates at the University of Alaska system. Only about a third of freshmen seeking technical certificates, associate's degrees or bachelor's degrees graduate within six years. In other words, three times as many Alaskans who try for a UA certificate or degree actually receive one. The department doesn't know how many other students would have intended on getting a certificate if they were prepared. He reported that in the fall 2009, 53 percent of first-time freshmen took remedial courses. Surely reasons exist for this, but some student's limitations are academic and the department wants to change this. He pointed out the mathematics standards distinguish between standards all students should know and standards students taking advanced courses should know. The goal is to give students choices after they leave high school.

8:33:33 AM

MR. MORSE cautioned that standards alone will not change student achievement. It would take a good curriculum, good professional development for teachers, and teachers' instructional strategies and approaches which must take into account the students. Teachers must know their students or they cannot advance these students' achievements.

8:34:08 AM

MR. MORSE reported that Massachusetts set high standards over a decade ago and worked through the challenges of implementing them. The result today is that Massachusetts is the highest scoring state on the National Assessment of Educational Progress (NAEP) in its overall student body and in every subgroup of students. In other words, Massachusetts has the greatest percentage of African-American students, Hispanic students, students with disabilities, and limited English proficiency students with a greater percent of proficiency than other students. Massachusetts is the only state that is comparable on international assessments with top performing countries. The department believes that high standards must be mixed with a rich, locally-developed curriculum that takes into account the student population, combined with good professional development, so students can graduate with ability to compete globally, while knowing how to live locally. He turned to the cost of assessment. He reported that the current entire assessment program is about .66 percent of the total educational budget in Alaska, including debt reimbursement.

MR. MORSE highlighted the importance of knowing the figures because for a relatively small amount of money the department provides data regarding student proficiency in many areas. In a cost effective manner, the public knows the performance of schools in the academic area and the legislature can have an analytical view of investment. He offered his belief it is important to weigh the cost of rigorous standards to the cost of standing still. He said, "The cost of standing still will be borne out in families. Every time an Alaska high school graduate spends money to attend UAA and leaves without a diploma or certificate his or her family has lost an investment. Every Alaska high school graduate who is undereducated and has not reached their potential faces reduced earnings, unemployment, and reliance on public support. The current assessment has multiple choice questions and constructive response, open-ended

problems on all tests, including mathematics, reading, writing, and science, which comes at a cost.

[8:36:44 AM](#)

MR. MORSE reviewed how the current standards were brought on line, by grade level. Current standards have their roots in the mid-1990s. By then all content areas had broad goals developed. By the late 1990s the department developed standards in grade spans for reading, writing, and mathematics. In 2004, the department defined those standards by grade level with K-2 standards being added in 2006. Currently the need for increased achievement and improved coherence between high school and college is driving the new proposed standards. To date, 228 people have been involved in eight different meetings to write the standards. The state Board of Education considered the standards in December, which have been out for an extended period of public comment through May 2012. The BOE is using a statutorily required vetting process of promulgating regulations.

MR. MORSE related the department is conducting outreach during the time the standards are out. The department is hosting webinars every month for a total of 12 webinars, six in each content area. The department has updated information on its website on the standards. He related that the department is examining its standards relative to previously approved documents, such as the early learning guidelines and the literacy blueprints. The department is conducting industry outreach meetings. The department is conducting outreach to districts, including visiting school districts and having them utilize the department's staff to conduct presentations about the standards and how they can make public comment. Additionally, the department will conduct a study of two-year certificate programs in the state and university programs in the state to determine the expectations required for success in the programs and how the professors prioritize the current proposed standards and if any standards are missing. The department is conducting outreach programs to solicit comments. The department will review all of the comments and take the comments to the Board of Education in June 2012. The BOE will review them, take verbal comment, and will make final determinations on any actions.

[8:39:39 AM](#)

MR. MORSE spoke specifically to the math standards that are being proposed. He highlighted that the standards were designed with some attention to providing focus, coherence, and rigor. The standards have both procedural and conceptual understanding built in, which is different from past standards. The standards for mathematical practice are included as well as the standard for mathematical content. He emphasized that what is very different is the standards for mathematical practice since it demonstrates how to use mathematics. He pointed out that examples of the standards of mathematical practice include modeling, constructing variable arguments and critique reasoning of others. He highlighted that these are just three examples of the eight standards for mathematical practice that cause the standards to have a relevant component to education into students' lives. The proposed standards will help students, parents, and educators picture how the standards might look in practice. The proposed standards also have a retention aspect. He pointed out there is more in-depth learning at each grade level so students truly learn and retain what they learn. He provided examples of the focus, including that K-2 focuses on addition and subtraction, measurement using whole numbers and quantities; grades 3-5 focus on multiplication and division of whole numbers, with the intent that when students leave those grade levels future teachers know the concepts have been learned by those students and can build on prior learning. He explained that the domains for the high school changed and became more focused in a different way, such that it includes number and quantity algebra functions, modeling, geometry, statistics, and probability.

MR. MORSE indicated the proposed standards distinguish those things everyone should know and those things students intending to take advanced courses should know. The proposed standards for mathematics will help create a society where students use data to make decisions and create better understanding of statistics. The standards address mathematics for everyday life, work, and decision-making primarily through the standards for mathematical practice. The goal is to improve decision-making, and understanding quantities and their relationship to physical, economic, public policy, and everyday situations. The mathematics standards, combined with the curriculum will create a foundation of excellent instruction in schools. Standards must prepare every high school graduate for a plethora of opportunities when they leave K-12.

[8:43:19 AM](#)

REPRESENTATIVE SEATON asked him to clarify between the standards of mathematics and the standards of mathematic practice.

MR. MORSE referred to the committee handout labeled, "Alaska Mathematics Standards." He explained that the content standards would be very specific to issues related to the content of mathematics. Even though he is a trained teacher he admitted he is not a trained mathematics teacher. He stated that the higher grades require more sophistication in knowing mathematics, teaching mathematics, and knowing children to translate the concepts into understandable concepts. The standards for mathematical practice begin on page 4. He noted he previously read three standards of the eight listed. The following pages outline in more detail some descriptors of what those mean. Essentially, the whole intent behind the standards for mathematical practice is to help educators integrate those practices into the content to make meaning of the standards. He summarized the intent is to bring standards forward and to think about how kids will use them so they don't just learn them for the academic practice of learning mathematics, but can think about using the standards.

[8:45:47 AM](#)

REPRESENTATIVE CISSNA, referring to her own mathematical limitations, stated that financial viability can be managed without the need for higher mathematics, as well as function in the legislature. She supports education as a solution for problems in society; however, she asked how mathematics assists people to function in society. She opined that the basics are required, but higher math requirements for algebra and beyond may not be necessary for graduation.

MR. MORSE responded that the standards distinguish between what everyone should know versus what an advanced math student requires. He recalled she pointed out an area in which modeling in mathematics fits. He referred to page 84 in the handout, labeled, "Narrative of Standard - Modeling." This describes what modeling of mathematics is in the classroom, with examples including modeling savings account balance, bacterial colony growth, or investment growth. Those of us who do not proceed with an intensive mathematical career should understand statistics at some level and how to create an investment that creates a long-term growth to allow for retirement or to meet rent obligations or provide a means to buy a home. He recapped that this is the intent of the mathematical practices and adopting those with the content so they are connected.

CHAIR DICK interjected and referred to the excerpts that he provided in the committee packet, and directed attention to the ones that are identified by a plus represent those concepts that students going on to higher mathematics will understand and those without a plus that every student will know. He referred to page 2, which lists concepts students will know and page 3 lists some concepts student going on to higher mathematics will know. He agreed with Representative Cissna that some of the standards are useful, but not all of the concepts every student will know have real-life applications. He stated that he was unsure why anyone not going on to higher mathematics would need to know an imaginary number.

[8:53:52 AM](#)

REPRESENTATIVE PRUITT agreed Chair Dick hit upon one of the problems with trying to universally educate people. He explained that a student may not determine in high school what path they may take so the schools cannot assume they only need to balance their checkbooks; instead, the schools must ensure the person has a good foundation in mathematics. He recalled the German model allows for apprenticeships by the age of 12 or 13 and students are moved into a career path. He related his understanding that the concept mathematics doesn't always apply to real life, but the state can't assume the only thing kids need to know is how to balance their checkbooks.

[8:55:24 AM](#)

CHAIR DICK referred to a handout in members' packets titled, "Comments and questions by Chairman Alan Dick - My main points," which he said he handed out since this is one of the most important issues to come before the legislature. He cautioned that if the questions are not answered the legislature will be on a six-year track that it will not be able to depart from. He pointed out that the proposed standards were created by a group that was almost exclusively educators. He then referred to a letter dated March 9, 2012 from Commissioner Hanley which identifies who worked on the standards. He read, "Two-hundred twenty-eight people participated in those meetings. ... Twenty-eight of the individuals who participated were from non-K-12 programs." He stated that 200 were from K-12 programs; 28 were not, including industry, career-technical education programs and universities. He also read, "Many people from industry were invited, and approximately ten industry and career-technical training stakeholders participated." He reported that he went

through the list provided by the commissioner and tallied the 228 people. He identified 21 from the university, 6 from career and technical education systems, 6 from the Department of Labor & Workforce Development (DLWD) and the DOE, and 10 other. He concluded that only three are not educators. He expressed concern that the standards were developed by the same people and process that was previously used. He reiterated that the same process is being used, yet currently one-third of the students are dropouts, one-third of the students continue on to life; and one-third attempt college - a two-year program, a certificate program, or a four-year program - so it is roughly thirds. Of the ninth graders, only seven percent continue to complete a degree within six years. He questioned whether the system is going to be designed for the seven percent who will need to know the mathematical concepts for advanced math. He surmised that the remainder of the students may become collateral damage.

[9:00:17 AM](#)

REPRESENTATIVE SEATON noted an earlier reference to Massachusetts and its high standards yet their minority and disabled students surpassed all other states, including Alaska. He asked whether examples of low standards are available that demonstrate success. He related his understanding that balancing a checkbook is helpful in life, but from a state's perspective if any states have taken that approach. He suggested that other state's standards could be assessed in terms of the proficiency of their students in all different types of careers.

CHAIR DICK referred to a study Representative Seaton previously brought forth that the Northern Irish schools who had designed a system designed to bring students to college. He recalled Ireland had two tracks, but the students in the career track were so engaged that they ended up with more college graduates than when they only had a college track.

[9:02:34 AM](#)

REPRESENTATIVE SEATON agreed. He suggested that Representative Pruitt's point is taken regarding how Northern Ireland and Germany have created a common standard. He agreed that a two-track system has been effective. He questioned if there is a model or examples of U.S. states offering a common standard - not highly technical standards - and whether that has resulted in students performing beyond expectations.

9:04:14 AM

CHAIR DICK answered that he was born and raised in Massachusetts and knows that the property standards in some areas of Massachusetts are reflected in the SAT scores of the students. He recalled the Brookings Institute Report compared Massachusetts and Mississippi. He concluded there are some pockets in Massachusetts that are underperforming.

CHAIR DICK passed the gavel to Representative Pruitt.

9:05:03 AM

REPRESENTATIVE CISSNA recalled Representative Pruitt indicated it is not possible to forecast the direction an undecided high school student will take. She suggested that she has not seen a study on the outcomes of students who graduate from high schools in the various areas of the state. The high school students often don't want to stay in the communities. The high school students sometimes are the ones in the village who have a high rate of suicide. She surmised that mathematics could play a big role and what appears to be missing is mathematics that would help to determine what would work best in each area. She pointed out the vast differences in schools throughout the state. She said she has visited 66 communities and they are all different. She reported that Alaska is dead last in graduating students and Alaska has a high dropout rate. She was unsure of the skill sets that benefited students who graduated from high school. That would allow the state to know what is working and what is not, including skill sets, particularly social skills. She questioned whether a study had been done, which could help determine what works instead of focusing on tests. She emphasized that social skills are what people need for jobs - including getting along with people and showing up on time. She stated that math doesn't play a big part in a number of jobs. She recapped her belief that the challenge in Alaska is the direction it takes to assess the problems. She further suggested that the state should use mathematics to figure out the steps needed to move the students to work to their maximum potential.

9:10:25 AM

MR. MORSE answered that to his knowledge no other study quite like the described study had been commissioned. He suggested that the study would be complex, but interesting. He offered his belief that the proposed standards do hone in on the issues

and lay out what a student needs to know. He acknowledged that the proposed standards contain some complex aspects but they also address what is necessary. He pointed out that teachers need to know math and understand children's development to translate those concepts, which is the art and craft of teaching. He suggested that even if the standards changed he would advocate for an inclusion of the standards for mathematical practice. He pointed out that is what is significantly different about the proposed standards. He agreed the addition of rigor is present in the content standards, but it is the standards for mathematical practice that really emphasizes that the concepts must be put into a context so they make sense.

MR. MORSE stressed that standards alone would not improve achievement. He declared that they are not the reason for achievement or the downfall of achievement. He concluded that standards do not cause students to graduate or not, but must be combined with the curriculum. He reported he has spent 17 years in school buildings in the state that the curriculum must be locally prepared since the state is diverse. Furthermore, an effective statewide program cannot be designed without the local aspect brought in to the curriculum since Southeast Alaska is vastly different from the North Slope. He reiterated that the curriculum must be prepared by local people since the context must make sense to students. He concluded by stating that he wished he had better mathematics instruction so the more complex things would not cause him to research answers. He advocated for complex math so students can work at multiple levels, including at the policy level since society will benefit, and students can compete globally and live locally.

REPRESENTATIVE PRUITT returned the gavel to Chair Dick.

CHAIR DICK related his understanding of the importance of context, but without any real life application it isn't possible.

[9:13:44 AM](#)

REPRESENTATIVE FEIGE offered his belief that students need to be educated on a fairly broad level because it is difficult to predict what a young person will do, or where they may go or their needs. He said he couldn't have predicted his life, but he credited the breadth and depth of his education. He related his understanding that standards are written for educators so he did not expect to fully understand standards targeted for

someone with a master's or doctorate degree in education. He suggested the standards could benefit from more input from outside the educational community to provide more of a check and balance on the system as a whole. He acknowledged the standards but emphasized the importance of ensuring that students successfully pass each gate. He questioned the support provided to the teachers in the districts to allow them to retain students if they do not fulfill a standard, or make the grade. He characterized that as a rather touchy subject with parents. Additionally, it is tough for some teachers to tell kids they have not met the standards, which is a problem for the system. He asked for the checks and balances to ensure students do not get passed on prior to meeting the standards.

MR. MORSE responded that the department provides an assessment program to every district to allow them to conduct an "external audit" to determine how individual students are progressing. He described one of the benefits of a statewide testing program is to assess the progress of the school and an indication on how individual students are doing. He related that the audit is motivation for principals to sit down with the teacher, the student, and the family to know the consequences of whether retention is indicated or identify augmentation to allow them to proceed. Most districts have an articulate procedure for retention that involves early intervention and discussions that engage the family, primarily in K-8, he said.

[9:18:19 AM](#)

CHAIR DICK said it is hard to comment on standards that are not in common language, and what is before the public for comment is cloaked in obscurity. Also, the standards should be tested to determine if a teacher can provide a lesson plan based on the requirement. He suggested that would be an appropriate method of feedback. The standards need to be test driven, or modeled to determine effectiveness. What is taught does not necessarily have real life application. This is an opportunity to be pioneers in this regard. He referred to a handout entitled "Meaningful Education" to review what could be included in a standard to develop an applicable standard.

[9:24:45 AM](#)

REPRESENTATIVE FEIGE stated a problem that exists in that model: it would be difficult to teach to the future and what is relevant today may not be relevant in the future.

9:25:51 AM

CHAIR DICK related his understanding that the standards are open for comment, but he did not think the standards are written in a form the public can understand. Furthermore, he did not see the use of the document if people can't read it since they are written in a manner that educators can understand. He further understood if the Board of Education adopts the standards they will be put in common language. He emphasized the need to put the standards in a language that can be understood prior to asking for public comments. He pointed out that he is a math teacher and can translate most of the standards, but the document is cloaked in this fashion. Additionally, he would like to see the standards tested before they are implemented. He suggested a sampling could be distributed to five teachers statewide who could develop a lesson and assessment so the legislature could assess whether the teachers all understood the standard that the writers intended. He likened it to a road test.

CHAIR DICK asked a series of questions: He referred to his document titled, "Comments and questions by Chairman Alan Dick" and read excerpts from it. "The implementation of the standards without vetting and testing is educationally and economically unsound." He suggested this represents a multi-billion dollar superstructure on top of a \$270,000 foundation. He recalled testimony from the superintendent from Dillingham who indicated he is so busy teaching math and science that he does not have time to teach anything else since he is focusing on testing. He pointed out that Commissioner Hanley indicates that if the foundations of the educational system are flawed the next six years will produce the same result or worse. The price tag will be huge. He cautioned against implementing these standards unless we are sure they are what the state wants. He asked whether the standards are in a language the public can understand. Secondly, the standards need to be tested. The acquisition of facts is important, but the lack of real life application is tragic. He welcomed someone pointing out real life destinations. He stated that NCLB was a failure and the Brookings study indicates that the core content standards will be, too. He referred to a handout titled, "Meaningful Education" and briefly touched on some basics that students should know in life, including banking, money, insurance, small business, unions and job hunting. He questioned whether imaginary numbers teach students to open a small business.

REPRESENTATIVE FEIGE stated that the 401K application is interesting, but it didn't exist when he went to school and there are lots of things that are unknown. Students need to be able to research and figure out things themselves.

CHAIR DICK said he did not disagree. He recalled that was in Commissioner Hanley's letter. He asked whether teaching what is relevant today will prepare kids for the future. He answered that students are prepared according to current standards. He asked questions, including the cost to the districts that are adopting new standards - for textbooks, curriculum development, and teacher time - to align the new materials to new standards and to perform professional development. He inquired as to how the proposed standard will align with school districts' mission statements. Every district has a mission statement. He offered his belief that if the mission, method, and metric align that the problem will be solved; however, the metric selected is the multiple choice test, driven by standards. The method is aligned with the metric and the state has abandoned its mission. He recapped that is the essence of what is wrong. He suggested the mission statement should be what the system will do. Further, the method should be determined and out of the method the metric should be developed. The system is upside down and the educational system in the U.S. is driven by the textbook and testing industries. He related a scenario in which a chemist is designing his experiment around his thermometer rather than focusing on the experiment at hand. He reiterated concern for standards being written by educators with little input from anyone outside the field. The language of the standards cannot be properly vetted by the public.

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REPRESENTATIVE CISSNA agreed with Chair Dick. She recognized math is important. She expressed concern about what takes the oxygen out of the air. She offered her belief that testing and standards seem to move away from one of the most important things in the workplace, which is to work well with others. The missing aspects are how to be a good team player, cultivating strengths and cooperation. She considered her own math weaknesses, but remarked that it hasn't done her any real damage. She has completed advanced degrees. She referred to the memo dated 3/8/12, from EED, page 2, which asked what states mean by the terms college ready and career ready. She further recalled that college was considered every type of school and training after high school. She stated she has serious personal problems with that since she loves college. She related his

understanding some college professors can make math come alive, but not all do. She suggested instead of using the term college to use the term work force or something like work force. She said the really important thing for everyone is to carry our own weight, and that is the basic necessity, which she said amounts to earning about \$18.00 per hour. She stated that being a successful working adult is exciting, not being college ready.

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CHAIR DICK related he researched the term "college ready" and did not find a consistent view. He suggested coming up with an Alaskan definition of "college ready." He referred to page two of his March 7 letter to Commissioner Hanley, and read, "In the Description of Mathematics Standards (p. 3) it states: The high school standards set a rigorous definition of readiness by helping students develop a depth of understanding and ability to apply mathematics to novel situations, as college students and employees regularly do." He asked the committee to provide a few examples of applying mathematics to novel situations.

MR. MORSE answered that the best examples are contained in the proposed standards. He said if those do not suffice that he would defer to several potential examples. One, the commissioner may wish to address that specifically. Second, Commissioner Hanley's letter suggests several things to think about. He related that the task force visit to the North Slope discovered mathematic concepts were being put into practice. The committee could take a field trip to see this first hand to observe teachers taking complex concepts and relating them to the real world. He referred to page 84 of the Alaska Mathematics Standards as providing the best example. Additionally, he offered his belief that the mathematics standards at the high school level require someone who knows mathematics and kids to put those into a concept for students. He acknowledged that he is not a mathematics instructor and suggested turning to a mathematics instructor to do so. He said he knows that the proposed mathematics standards demonstrate ways for educators to use them. Further, several examples in the very front of the document describe standards. Ultimately, the goal is to have people who are going to put these into practice through curriculum and instruction to demonstrate how to do provide real life applications. He thinks the proposed standards even address the things Representative Cissna mentioned about kids working together and be good team members. He pointed out that good mathematics teachers use activities and strategies to have kids work together to solve problems as well

as working individually. He reiterated that the best way to view the proposed standards is to see someone who knows the standards to explain how the standard requirement might be implemented.

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CHAIR DICK raised two issues in education. One is what is taught and the second is how the subject is taught. He did not think teachers can know how to teach until what is being taught is described. He pointed out that in terms of standards the discussion surrounds what is taught; however, how it is taught is critically important, but as the two are blended together it dilutes the focus. He said he believes in communication, collaboration, creativity, and critical thinking. Before he accepts the standards he would like to see a real life application for every one of the standards. He offered his belief that in doing so the credibility with students would skyrocket and the dropout rate would plummet. He suggested that that is where the gap exists. He referred to page 3, to his letter dated 3/7/12 to Commissioner Hanley, and read:

Please describe examples of the following.

In grades 3-5 mathematically proficient students will:

- explain correspondences between equations, verbal descriptions, tables, and graphs
- draw diagrams of important features and relationships, graph data, and search for regularity or trends
- understand the approaches of others to solving complex problems
- identify correspondences between different approaches
- check if the solution makes sense

CHAIR DICK related his understanding of the first one, but as a certified elementary math teacher he has a hard time imagining third to fifth grade students identifying correspondences between different approaches. Further, the reality of implementing this into curriculum may prove difficult especially when some rural teachers are teaching multiple grades. He recalled teachers' jobs used to be to take the information the students needed and create the scenario in which the student can acquire the knowledge. Now, he observes teachers spending the major portion of their time just trying to figure out the standards.

CHAIR DICK asked to see how grades 3-5 mathematically proficient students will be able to do so. He continued reading, "Please describe examples of the following. I can see teachers doing these, but struggle seeing all students doing them." He concluded that the bottom line is that every student must attain these standards, not only the higher seven percent that will ascend to college. He read:

How would a teacher approach teaching these strategies?

In grades 6-8 mathematically proficient students will:

- explain correspondence between a new problem and previous problems
- represent algebraic expressions numerically, graphically, concretely/with manipulatives, verbally/written

CHAIR DICK indicated it is not the teacher that will do this, but a proficient student will represent algebraic expressions numerically, graphically, concretely/with manipulatives, verbally/written. He emphasized that he has a hard time imagining every child doing this. He continued to read, the proficiency requirement of grades 6-8:

- explain connections between the multiple representations

CHAIR DICK said he staggers at imagining a student doing it. He did not comprehend how a 7th or 8th grader could explain the connections between multiple representations. He agreed it sounds good and he could understand the reason the committee is not flooded with public comment about the standards. He stated that his goal is to cut through the language and get down to reality. Anyone who is not an educator would have trouble commenting on this type of requirement. This could be the answer to why the students are not doing well.

[9:43:50 AM](#)

MR. MORSE commented that he has seen students at these grade levels doing these things when he has walked into classrooms. He explained he was the principal of a building and frequently saw this work. He referred to the concept of understanding the approaches of others and solving complex problems. He pointed

out that when students are working in groups the outcome is they are exposed to another student's approach to a problem and to critique it. They may discover there are multiple ways to solve a problem, but discover the simple way is best. He offered his belief that is exactly what should be happening in mathematics classrooms to bring them to life. He said he would argue that teachers would not teach the concepts if their students will not understand them. He stated that when he engages in instructing students he believes in them and his goal is to get them to understand the concepts. He was unsure how helpful it would be to provide an example for each one.

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CHAIR DICK clarified that he is not speaking about understanding students.

9:45:45 AM

REPRESENTATIVE CISSNA related her understanding that in some places this could work, perhaps having a class of 35 students and six or seven teachers working on concepts it could be plausible; however, in some villages there is one teacher who has a minimal number of students and multiple grades so it could prove to be difficult to implement the proficiency standards.

MR. MORSE related his understanding as to what she was stating, particularly since he has visited many classrooms in rural areas. Additionally, he taught at Hooper Bay early in his career. He maintained that it would be possible even as he recalled that his experience as a teacher in Rural Alaska has had its challenges. He taught from one class to three classes. He worked long hours to prepare for his classes. He offered the beauty of the standards listed are things that span the grade levels yet allow for the mixing of grades. Additionally, the Standards of Mathematical Practice provide the opportunity to mix grades and think through creating an environment that works across grade levels.

CHAIR DICK asked whether that would dictate pedagogy. The standards would not tell what is taught, but how it is taught. He asked how the department would assess the student's performance on the SBA and HSGQE if they were to explain the correspondence between different approaches to identify irregularity in trends. He suggested that between now and the next meeting the commissioner could answer that question. He again asked how the department would assess whether a student

was able to explain the correspondence between different approaches to identify regularity in trends or would the teacher be evaluated. He concluded that this appears to dictate how something is to be taught. He agreed it is good teaching practice.

[9:49:57 AM](#)

MR. MORSE explained that after the standards - whatever standards - are adopted, a testing blueprint is established, and lays out what can be tested on a statewide test. He pointed out that under the current standards some areas are not tested. He pointed out those areas are coded "L" for local. He said it is important and was sanctioned by the public and the department but yet there is not any way to test it in a statewide assessment. Assessments are being changed to help local educators to assess something more complex by doing projects and evaluating the performance of students - how well they articulate arguments. He offered his belief that some questions on the statewide test may get at this by laying out a problem and asking the student to identify the approach to solve the problem. Some standards that won't be tested on a statewide assessment, but become locally assessed or become responsible at the local level.

[9:51:45 AM](#)

REPRESENTATIVE SEATON asked whether there is any objection to the Standards for Mathematics Standards Practice on page 39 for Measurement and Data, including solving problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects; and Grade 4, to solve problems involving measurement and conversion of measurements and conversion of measurement from a larger unit to a smaller unit; and Grade 5, convert the measurement units within a given measurement system and solve problems involving time.

CHAIR DICK explained that those are the grade level expectations (GLE).

REPRESENTATIVE SEATON related his understanding those are based on the Alaska Standards for Mathematical Practice and on the content standards. He summarized that the practice standards - eight practice standards - beginning on page 4, which identify make sense of problems and persevere in solving them; and on page 6, reason abstractly and quantitatively; and on page 8, construct viable arguments and critique the reasoning of others;

and on page 9, model with mathematics. He asked whether there is objection to the eight Alaska Standards for Mathematical Practice or if people disagree with the statement of content standards. He related his understanding that the two seem to be separable, but if we put them into a common unit it seems like we are talking about apples and oranges. He offered his belief that the grade level expectations seem to follow from the mathematical practices and not specifically the content standards. The content standards flow through the practices and then to the grade level expectations. He offered his belief that the committee needs to figure out if there is general agreement that the practice standards and the grade level expectations make sense or not and if it is the statement of the content standards that are problematic or if there are problems with everything.

CHAIR DICK said it is about identifying what and how - they always merge. As to what we're teaching and the practice standards are the how. That's how we practice. That's how we do the teaching. He related his understanding that there are the content standards, the performance standards, and the grade level expectation (GLE). The content standards provide the overarching concept; and performance standards are those standards the teacher can observe the student perform; and the GLE is the grade at which the students should be able to perform the functions. Thus it is broken down into a finer category. He viewed the Alaska Standards for Mathematical Practice as being an overlay - over the top of what would be taught.

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MR. MORSE answered that the current standards are structured in that way - with broad goals, the first content standards. Performance standards were broken down by grade spans and the department would check student performance. The department created the grade level expectations to gain more clarity on the standards. The current standards are not set up in the same method. The new standards - currently out for public comment - really don't create all of those levels, but consist of content standards, but the department wanted to know these by grade spans so it could check performance so they are called performance standards and grade level expectations. He reiterated that the new content standards do not have the same structure; however, most of the pieces outlined are the content standards. The standards for mathematical practice are broadly laid out in the different sections so one can think about how the students will perform using the practices in the different

grade spans. The first few pages in the document really focus on the standards for mathematical practice. He referred to page 5, which lists the mathematical practices that grades 3-5 mathematical proficient students will need to perform, but then you have to look into the sections broken out by grade levels throughout the document to discover the content standards - most patterned after the current GLE. He acknowledged that an expert will know these far better than he or the commissioner will. He reported that the department will perform a series of Webinars on the math standards in March. He turned to the letter dated 3/9/12 from Commissioner Hanley to indicate the dates and structure as well as the website location.

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REPRESENTATIVE CISSNA asked whether the University of Alaska is part of this.

MR. MORSE responded the university selected some of the 228 persons selected to develop the standards. Additionally, the department commissioned a study from the Institute for Social and Economic Research (ISER). They are determining the expectations required for students to succeed in two areas. He related there are two year certificate programs in vocational areas that identify the expectations and successes in those programs and that prioritize those expectations against the standards. He related that information will go to the BOE when they consider the outcome of the proposed standards in June.

[10:01:12 AM](#)

CHAIR DICK posed whether the state should write standards for all students or for the seven percent that will go on to earn a college degree. Additionally, he maintained that the standards should be written in laymen's terms, and should undergo field testing by teachers. He expressed interest in knowing the participants involved. He further expressed interest in the cost for the new curriculum materials and to align the curriculum standards and professional development. He said he would like to see an example of an application for each of the standards listed.

[10:02:37 AM](#)

ADJOURNMENT

There being no further business before the committee, the House Education Standing Committee meeting was adjourned at 10:03 a.m.