**COMMONWEALTH OF MASSACHUSETTS**
**BOARD OF EDUCATION**
*****REGULAR MEETING*****
**MASSACHUSETTS DEPARTMENT OF EDUCATION**

**350 MAIN STREET**
**MALDEN, MASSACHUSETTS**

**WEDNESDAY, DECEMBER 20, 2000**
**9:00 a.m. - 12:00 p.m.**

**MEMBERS OF THE BOARD OF EDUCATION PRESENT:**

Mr. James A. Peyser, Chairman, Dorchester
Dr. Roberta R. Schaefer, Vice-Chairperson, Worcester
Mr. Charles D. Baker, Swampscott
Ms. Patricia Crutchfield, Southwick
Dr. Edwin J. Delattre, Boston
Dr. Judith I. Gill, Chancellor, Board of Higher Education, Boston
Mr. William K. Irwin, Wilmington
Ms. Jody Kelman, Chair, Student Advisory Council, Concord
Dr. Abigail Thernstrom, Lexington

Dr. David P. Driscoll, Commissioner of Education
Secretary to the Board

**ALSO PRESENT:**

Nancy Catuogno Varallo ,Registered Diplomate Reporter

**COMMENTS FROM THE CHAIRMAN**

**CHAIRMAN PEYSER**: Good morning everyone and welcome. Let me forego any comments. I don't have anything particularly interesting or exciting to say, so I'll pass it to the Commissioner.

**COMMENTS FROM THE COMMISSIONER**

**COMMISSIONER DRISCOLL:** Thank you. I do have a few announcements: First of all, this week we awarded the second round of the Edgerly School Leadership Awards. As many of you know, Bill Edgerly, through his foundation last year, awarded $10,000 to the principals whose schools had the highest percentage increase of MCAS scores. He and his foundation again presented $10,000 awards this year. I think it's significant, because we talk about the gap that exists here in Massachusetts, and throughout the country, between the achievement of urban, suburban, and rural kids while being challenged as to whether or not Ed Reform can close that gap. Of course, it must and I believe it will. Although we are criticized for what currently exists, I believe that MCAS and our school accountability system is starting to mirror what was there. Clearly, it wasn’t Education Reform or MCAS that created the achievement gap and closing it will take time especially given the challenges that urban schools face, but there are signs of progress. Among the Edgerly awardees this year, we see five schools that would not necessarily be the ones you might think of first; two were high schools and two were charter schools. After two years of Edgerly Awards, we've had a school in Boston, a school in Worcester, and a school in Springfield that have received these awards. I think it's indicative of what's happening across the country--schools that are able to focus on a clear plan have been able to succeed. My congratulations to those five winners.

I also want to share this trophy I am holding and point out that Massachusetts received a National Innovations Award from the Council of State Governments for its Spread the Word campaign. This program which began a few years ago was not begun by the Governor, but by the Governor's better half, Jan Cellucci. The Governor's wife came up with the

idea of having people who had books around the house donate those books in order to provide them to students and schools in need. It's been a very, very successful program such that we have received this national award. We were also, in the Commonwealth, fortunate to settle a legal dispute, not ours, the Commonwealth's, with Toys 'R Us over some issue. They were required to provide a financial payment to the Commonwealth which the Attorney General's Office and the Governor's Office agreed would go to Spread the Word. So we have even been able, through various means, donations, et cetera, to buy brand-new books. We've also had the Governor and the Lieutenant Governor join us to read to the kids and give the books out. It's been hundreds of thousands of books at this point and it's just been a tremendous program. I'm very proud of the staff for this award which they received in Dearborn, Michigan last week.

Many people know that the Secretary of Administration and Finance, Steve Crosby, has begun what he calls an E-government initiative, an attempt to try to have Massachusetts get on the forefront of the Internet web-based customer services. It's pretty exciting. A citizen of Massachusetts can go on the web, click "house", and get information on housing or houses and that kind of thing. We here at the Department of Education have begun Virtual Education Space, and I'm going to have a short presentation to the Board at the January meeting about VES. We now have 14 other states that are interested in joining us. We also have all of the large national vendors very interested in this exciting initiative. VES 1.0 has been launched for all of our teachers; they will all have a space of their own. We have already had 100,000 hits and as we build it out, all of our teachers will be able to access all of our standards and classroom examples. We've talked about making frameworks come alive, which is the topic for today--to make the science and engineering/technology framework come alive. Teachers need to share these examples and classroom practices and assessment questions that go along with it. We are then going to expand next fall to VES 2.0 which is for students. Every Massachusetts student in K-12 will have the potential to have a space. We will be electronically transmitting MCAS scores to kids before we even get them to schools and districts. And again, kids will have a space, which may be accessed by parents and teachers, where they can keep a portfolio of their work, et cetera. It is very exciting and I believe that one of the major components of E-government will be VES. We are pleased about that. There are two other very quick things.

I have asked Darrell Pressley, who has been heading the media office, to take on a new assignment of community outreach. There's no question that we need to do a better job working particularly with our urban school districts. One of the things that I must admit has been a learning experience for me is the tremendous challenge that urban districts face. It's easy to talk about, but when you really see it on a daily basis, it's another thing. There are tremendous deficits for many of these kids -- you talk about regression of learning over the summer, many kids have regression of learning over vacations, weekends, and sometimes overnight. We need to pay particular attention to this and MCAS results are just another example of the way it jumps out. So we are forming a particular community outreach program with the Lieutenant Governor, Project 2003, working with us.

Finally, I want to acknowledge publicly that Fred Andelman, a long-time staff member at the Massachusetts Teachers Association, has passed away. He worked very closely with us; he was a friend and vocal critic when he needed to be. Many of you know that he was struggling terribly at the end and was coming into work in a van and in a wheelchair. The last time I saw him, he was being lifted into the van; he took a few minutes to exchange pleasantries and then gave me a little advice, as he often did. I always appreciated his candor. He was a great man that worked very hard for professional development. He represented teachers through the Commonwealth very well. We will miss Fred Andelman. With that, Mr. Chairman, I turn it back to you.

**PUBLIC COMMENT**

*Roseanne Franco*.

**MS. FRANCO**: Good morning. I'm Roseanne Franco. I'm a science teacher at New Bedford Regional Technical High School. I can't quite fit the name on the envelope, but I can get it in one breath. I'm here to speak about the science frameworks. I was a member of the biology 10th grade science framework working committee working group. I have to start off and just give you a thought about myself. I had no intentions of becoming a teacher; this was not my chosen profession. I was a Ph.D. student at UMass/Amherst. I have a master's of science in plant physiology. Due to a change in my family circumstances, I discontinued the Ph.D. and finished with a master's. I will hopefully go for my Ph.D. in the future. It's not something I have ruled out. But in the meantime, I decided to take a rest from my future education and become a teacher. I have been a science teacher at this high school for five years.

Walking in the door I was given a 10-year-old curriculum and asked to teach from a book from 1986. This was in 1996. I had great concerns and the curriculum was my major concern walking in the door. I have been part of the effort to make great changes in our school and, as a result, my school has asked me to be involved with the frameworks here at the Department of Education.

As a member of the biology frameworks committee, I became aware of an opening on the committee as well for the 10th grade biology assessment, and that is another committee that I'm on. In working with both committees, I have come to a better understanding of what it is we are trying to achieve in raising the standards. The biology frameworks cover a full-year course. If you go through them, you'll notice that much of it is molecular and cellular biology, and there is some evolutionary as well as ecology biology in there, and human anatomy and physiology. One of the largest difficulties we had was defining what should be involved, and having the human anatomy and physiology in there was important because it's an essential item that students should have involved in their education. However, coming from my vocational background and other teachers coming from different backgrounds, urban as well, as was already mentioned, we realized there would not be enough time to cover human anatomy and physiology as well as everything else that we expected students to get through.

The material that they are asked to cover is essential to their understanding for the future, whether it's that of public education if they go further in higher education, if they go to the doctor's office they need to understand what illness they are being told they have, they need to have the education. Human anatomy and physiology were not included as core, and the reason for that is, again, it would take a second year to teach that and, in fact, in most high schools that do offer human anatomy and physiology as an elective in the junior or senior year. There was not time to keep that in there. I know it was a concern, it was written in the public comment several times, and I thought you should know that as you're making your decision. The other thought I wanted to share goes along with the vocational aspect. I'm very concerned that my students will not have enough time to finish this curriculum. Even being a member of the frameworks committee, I was involved in setting it up, my students are only a quarter of the way through it and we are almost halfway through the school year, and I have concerns that they are not going to make it. I'm a member of this whole group, I have worked very hard to have that framework set, and I don't think my students will get through it. I still have concerns that they are being asked to do more than academic schools, and I would like to see some changes as far as that goes. Their portfolios would definitely be helpful.

*Howard Dimmick, President of the Massachusetts Association of Science Supervisors.*

**MR. DIMMICK**: Good morning, Commissioner Driscoll, Chairman Peyser, members of the Board and attendees here at the meeting. I'm speaking to you as a science teacher of 38 years in Massachusetts, and as the current president of the Massachusetts Science Supervisor's Association, and a member of the Earth Science Committee for rewriting the frameworks. I have also worked with the U.S. Geological Survey writing teacher materials for them, so I have a fair background in earth science. For the past two years we have seen two revisions of the science frameworks make their appearance. In the first case, there was a feeling that the frameworks did not meet the needs of the students in the public schools in Massachusetts for a strong science background as they leave high school and move into college and the workforce. Many comments and suggestions, as you know, were sent to the Department in October of 1999, and the result was a formation of teacher working groups this spring. Each of the teacher work groups has spent a large amount of time, many hours, putting together these programs that you see in front of you today. Many classroom teachers were involved as well as members of the Department of Education. The results were published in the June 30 science framework draft.

After a period of feedback, the groups met again in October and spent a long period of time, at least a half a day, reading over the comments that came in from the public comment period. And in putting core frameworks together, we spent time putting those frameworks together based on a lot of the input from the teachers. A large number of the comments were used to make final revisions, the result of which is the science framework document you have before you today. This document has been edited. Dr. Stotsky met with educators from the Massachusetts Association of Science Teachers and the Massachusetts Association of Science Supervisors in late October to hear concerns and gather input. When we went to this meeting, the supervisors had about 15 items that were of concern to us and those items were dealt with immediately. Before we started a dialogue, many of them had already been taken care of. There are still two areas that we have concerns about and we have a couple of points to mention.

The two areas we are still concerned about would be that the human impact of the earth sciences is not addressed. This is critical in terms of coastal zone management, water treatment and wastewater treatment, erosion of our beaches and shores, construction of homes and other buildings on geologic sensitive areas. Although we have been told these are advanced study issues, there is a need for them to be studied in the earth science framework. Second, and something Roseanne just addressed, we feel that somewhere in either the 6th through 8th or the high school, human systems biology should have a little stronger emphasis than is in the present one. The Association of Science Supervisors, as I said, had 17 concerns when we went to the October meeting. Most of them were taken care of, but we have several things on our statement here. First, we hope that you do adopt the frameworks at the meeting this afternoon. We need planning time in our districts to get these implemented for a September of 2001. This requires that teachers receive copies, meet to update the curriculum, address core points, arrange training especially for our elementary teachers, and make sure that budgetary requirements are available to transition to the new framework. Two other things and I will be finished.

We are concerned in one area that the students -- I'm skipping through a bit here. We feel that there is a focus in the new document on vocabulary mastery and factual recall while less time is available for investigation as a tool of science. Ideally, these two standards can be integrated into actual instruction, but we need to work on it. And finally, we think that there may also be a conflict between the framework updates and the certification requirements which you discussed at your November meeting in Fitchburg. There is still an integrated science option which is at the high school level and you were thinking of phasing out a general science certificate for 9-12. We think there is a need for the certificate to remain or at least to be readdressed as an integrated science 7 certificate. One of our colleagues has done some studies of the MCAS results in his district and he's found that people who were certified in one area, and maybe not the others, their students have come up short question by question in some of the areas where they don't have the background. This is where we feel the integrated science program certificate would be necessary. As supervisors, we are ready to implement the new frameworks in the fall of 2001 as long as the time to do so begins now. I want to thank you and hope you do adopt this framework.

*James Hamos*

**MR. HAMOS:** Good morning. It's been a few months. I'm not going to start with a list of the different participations over the last seven years in the frameworks, but mostly I come to you today as a scientist, a neurobiologist who naively came to the Department of Education interviews and wrote applications throughout the 1990's for positions on all the frameworks committees in the past, all the time professing my love for science and my hope that I would be part of the processes that will develop an educational reform scenario that would bring such love to many students throughout the state. It is through all of these lenses that I'm a little bit disappointed by the document you're about to discuss and approve today.

There are good parts of this document. For example, the standards for elementary school science continue to emphasize the need for early learning of science. I'm also a strong supporter of the technology education standards. I really believe these help the whole process. However, as with the math frameworks that we discussed in the summer, this science and technology/engineering framework de-emphasizes the understanding of knowledge. The major flaw for me is in the laundry list of science content standards, especially those for the high school. Different than the mathematics debate, though, where there are many educators that believe there are curricula that can help develop conceptual understanding of the mathematics strands, the science portion of the current revised framework mimics the science curricula of our high schools, and it is these curricula that are understandable by few and instill a love for science by even fewer. As I read the revised science and technology framework, I found many of the words I care about, the words that can make the teaching and learning of science a powerful experience, sprinkled throughout the narrative portions. There are sections that talk about inquiry, there are examples for developing inquiry-based learning experiences, and there's an appendix noting a social context for science. But I fear that these references are merely mentioned and will have no impact on science education.

The skills and knowledge embodied in what were previously termed the strands of Inquiry and Science, Technology and Human Affairs, are not seen as having value in the current framework. As the framework has moved to course-specific standards for the high school, they contain the technical flaw that the literature now calls "a mile wide and inch deep". The TIMSS Study labels such standards as the root cause for low performance of American students relative to students from other countries. For example, there are 24 bolded biology standards that are considered core, i.e., these

are the ones that will be tested on MCAS. Nearly all start with verbs such as explain, recognize, describe, distinguish and identify. But these words are much better guides to the testing that will follow rather than the deep substantive knowledge that should be sought. There are 36 weeks in the school year, 24 standards, and the class can spend on average one and a half weeks on a standard. Assuming 50 minutes per class period and an occasional laboratory period, a class can devote approximately 400 minutes to a standard, not nearly enough for the depth of learning that might derive from inquiry experiences related to the content or to connecting the content to historical and social contexts.

I ask you to look at the standards. You are well-educated, successful leaders. Do each and every one of these standards have significant meaning for you? Many of them, especially as I move away from my own scientific discipline, have little or no relevance to me, and I was a very successful science student. I believe a better set of standards would have been the Broad Concepts hidden under each subheading of the framework or the succinct content standards from the National Science Education Standards that read like "students should develop understanding of the cell, molecular basis of heredity," so on. But such standards would have been difficult to test on a statewide pencil and paper examination.

I do believe there's a pragmatic solution to this, especially since secondary teachers have been trained and licensed in individual scientific disciplines and since there are not many curricular materials for secondary school science to reflect anything different. I have the following two recommendations. First, if you must go down the path of maintaining the status quo, providing a list of learning expectations that are typical of nearly all high school classrooms, I suggest that we save quite a bit of money in developing MCAS examinations for the full-year courses. We are not doing anything different than what is being done throughout the rest of the country, and there are perfectly good national examinations that can be offered. Simply mandate that students take two, three, or four years of science, whatever you believe is appropriate, and set a cutoff score on the standardized examinations. The second point: I do believe it is critical that every student have a science experience that incorporates extended inquiry around some scientific content. Developing the skills of inquiry through the science education experience is a must. The framework states this very well. "The methods of inquiry should be used to help students master the learning standards within the domains of science and to motivate their continued enthusiasm for learning science." Thus, I suggest that you mandate that each high school student provide evidence of understanding the processes of science with this being demonstrated through activities such as participating in a science fair, development of a portfolio of science-related work, involvement in a science-related internship, or even success on a statewide performance test.

I conclude with a last reflection on the sheer numbers and picayune nature of the standards, what some might define as academically rigorous. I urge you to decide on an alternative course to create standards that are intellectually rigorous, providing all students with an opportunity to develop science and technological literacy and encouraging many more students to enter the fields of science and engineering. Good luck with everything.

*Peter Nassiff, High School Science Department, Burlington, Massachusetts.*

**MR. NASSIFF:** Good morning, Commissioner Driscoll, Chairperson Peyser, Committee. I'm the current head of the science department at the Burlington High School. I'm the President of New England Association of Chemistry Teachers. I'm a member of the MCAS Assessment Committee 9-12 for chemistry. I'm a member of the American Chemical Society and a member of the North Shore Science Supervisors. I have a Ph.D. in chemistry from the University of North Carolina, an MBA, masters in engineering, from Boston University, and a bachelor's degree from Grinnell College in chemistry. I have been involved in full-time teaching at colleges and universities such as Southern Illinois University, Providence College, Boston University and Fitchburg State. I have been an adjunct professor at various institutes around here, like the University of Massachusetts at Amherst, Lowell and Dartmouth, Mass. Bay Community College, Simmons College and Babson. I've been a high school teacher in Peabody, and I've also been in industry for about 12 years as a principal scientist, head of a chief international science firm and a project manager of their major product line.

In my opinion, the 1995 current science frameworks needs revising, and because I have been a member of all these groups, most of the groups have complained about the science standards, and here are the reasons. They are too difficult to prepare students for the current examination. The test is in five different areas and, for example, at Burlington, our students will have had one year of biology in the 10th grade, and one year of physics in the 9th grade,

but the test requires them to be knowledgeable on five different subject areas. And we have spent a lot of time away from the classroom, away from, for example in biology, trying to prepare students to take the examination and trying to fill in the areas that we just couldn't cover in that short amount of time. Most of our students will never have taken an engineering/technology course or an earth science course until possibly their junior year. That also goes along with chemistry.

The MCAS examination was very disruptive because of the time taken away. And another problem is that it was given in May. Because of the time taken to prepare for the exam, this takes away from time and learning in the specific subjects. The students would take the exam, then it was difficult to start again and say, "Okay, we have to go back into our subject area." You know how students are in springtime. But they had a difficult time doing this. And the final problem was that it disrupted a lot of the science departments and school districts in trying to find a way to get all of those areas covered in a curriculum to have students ready for the high-stakes exam in 10th grade. What follows is a synopsis of what occurred from my perspective as the new standards were developed.

In December of 1999 the Department of Education asked for volunteers to form committees to devise new testing standards in area-specific tests for the 9th, 10th, 11th, 12th grades. We got together and attempted to integrate the 1995 standards into these area specific examinations. We found we couldn't. The current standards were just too broad and missed several of the key points. The committee decided this was impossible to do. Around March of 2000, the Department of Education also concluded this and they instructed us to do a high-level comprehensive one-year course that listed all of the specific standards for a discipline. They realized at the time that not all of these essential comprehensive standards would be untestable as core subjects, but they wanted them included and they decided what would be considered core would be later sent out to the members of the community for comment, and we got about 160, 170 comments from chemistry teachers throughout the Commonwealth. We went through and did the testing questions. We found tremendous agreement among the teachers.

We went through and looked at all of the public commentary. We included as core concepts when there was 66 percent approval for that as a core concept. In conclusion, I feel that the science standards are excellent, the proposed science standards are excellent. They are well crafted and in step with the National Science Education Standards. From the perspective of a science teacher and science head, I now know the instructional curriculum that must be followed in both the core and comprehensive science course. Teachers and administrators in the area know what's going to be tested when we prepare our students in those areas. And the students, the state, school systems, and teachers have a fair accountability method to judge the instructional effectiveness. Parents and teachers also know what the state standards require for instruction and testing, and they can also hold their children and the school system accountable for that testing also. The proposed schedule is unobtrusive, will be less disruptive to the school schedule, and we know now for students who have to do remedial work, we know what areas students have to focus on, and I think the standards are well thought out and can be modified very easily in the future. Please approve these standards for far-reaching science education in the Commonwealth of Massachusetts

*Charles Corley*

**MR. CORLEY**: My name is Charlie Corley. I'm President of the Education Technology Association of Massachusetts. For the past 28 years I have been a middle school technology teacher in Winchester, and I serve on the Editorial Review Board in my professional journal. I was a semi-finalist for the 2000 Massachusetts Teacher of the Year Award. I'm here to speak about the science and technology/engineering curriculum framework that is scheduled for adoption. I will limit my remarks to the technology strand of the framework.

I believe the framework before you today is an improvement over the 1996 framework. The technology/engineering strand makes clear that students are natural engineers and inventors. While learning the safe use of tools and materials that underline engineering solutions, students are encouraged to manipulate materials that enhance their three dimensional visualization skills. Students are encouraged to ask questions that emphasize critical thinking, problem solving and research by exploring engineering designs, materials, tools and machines in the areas of communication, manufacturing, construction, transportation, power and energy and bio-related technologies. At the high school, students achieve a more advanced level of engineering design skills by conceptualizing a problem, designing prototypes in three dimensions, and using hand and power tools to construct, test and modify the prototype. I like the fact that the strand makes clear that a one-year course at the high school level is not an end but a beginning of the study

of engineering concepts. It lays out ideas for advanced engineering programs such as automation and robotics, multi-media and computer information systems.

As for the standards, I find the preK-5 standards written in such a way to allow elementary teachers to integrate them into the classroom. At the 6th grade level, I find these standards to be a vast improvement over the 1996 standards. The standards will help technology teachers develop quality engineering courses. At the high school level, I find the combination of technology and engineering concepts to be well done. I'm pleased to see the section entitled Extension to Learning and Technology/Engineering. This is a great addition to the framework because it will help education teachers develop activities within their programs that will allow students to begin a better understanding of the concepts found in the listed standards. The section also reinforces the premise that technology/engineering is best taught using an active, hands-on approach. In closing, I hope the Board will adopt the framework today, and I appreciate the continued efforts of the Department to work collaboratively with technology education teachers to improve the quality of technology/engineering education in Massachusetts, and I thank you for listening.

*Ioannis Miaoulis, Tufts School of Engineering.*

**MR. MIAOULIS** : I'm the Dean of School of Education at Tufts University, and I'm also the Chair of the Technology/Engineering Advisory Board to your Board. It's a very exciting day, hopefully for a lot of us. Massachusetts, if you decide to vote positively, will become the first state in the country with engineering as part of its curriculum, and that is very exciting for engineers and a lot of non-engineers that I have talked with.

You may be wondering why is it that Tufts University is championing this effort. We are very fortunate to attract about 10 applications for each position we have, so we do not do this to attract more students at Tufts. Fortunately, we are the only engineering school in the country that has more students transfer into the school of engineering versus out of the school of engineering. You may not know that engineering schools lose about a third or half of their classes, and we have more kids coming in than going out. We have a 13-year history in working with the schools in K-12 environments to introduce engineering. We have worked with thousands of teachers, and our curricula now are used in thousands of classrooms all over the world. Our curricula have been translated in nine languages, to become 13 in a few months, and we are right now the leading engineering school in working with K-12 engineering education. We are currently piloting the engineering program that you see in the frameworks at the Nashoba Regional School District. It's working very well. NSF itself has provided a major grant to do that because NSF is leading the nation in introducing engineering as part of the curriculum. Over the past few years we have worked very closely with many, many teachers and I would like to applaud the leadership of Yvonne Driver, Dr. Stotsky, and the Commissioner for following through their vision to help us introduce this.

Now you may wonder why is engineering appropriate for kids of that age? Many, many people have asked me that, including some reporters yesterday, and there are five reasons. First, we believe that engineering is an excellent integrator. It motivates problem- and project-based learning, and it's the only discipline that can really pull together all the other disciplines through an activity. Kids have to use the mathematics, the science, the writing skills and the art skills in order to execute the project, so it is an exciting way for kids to pull together a lot of things they study. Some kids ask, Why do I have to learn this in math? Why do I have to learn this in science? But if they can see how they make things that work to help society, they'll be more excited in their studies.

The second reason is that ecological literacy has become basic literacy. Let's step back and think what we study in school. We study a lot of interesting things. For example, in science we study how volcanoes are structured and how they erupt. This is very good and should continue being in the frameworks. On the other hand, if we step back and think, how many times do we find ourselves in a volcano as compared to a car? Many people don't understand how a car works, yet they know how a volcano works.

The third reason actually used to be a boy/girl issue. We used to see in engineering schools young men being more capable of visualizing things in three dimensions and rotating objects in their mind than young women. The reason is because of the different toys boys and girls play with. Boys tend to play when they are young with toys that sharpen the 3D visualization skills and girls did not. Now we see this problem with both boys and girls because kids spend a lot more time in the computer sharpening eye-hand coordination instead of building stuff. So this will help kids develop the 3D visualization skills.

The fourth is it enhances communication skills by providing kids with the ability to use other expressions and meanings such as "design and build". And lastly, it supports our economy. We are in desperate need for engineers, and part of the reason is kids don't know what engineering is and don't choose it as a college choice, especially women and minorities. We have found that a lot of our students, most of our students have had a relative that's an engineer. Because of history, women and minorities do not occupy engineering jobs so they cannot mentor their children into going into science and engineering. The following engineering efforts all over the state we are ready to support. We want to work with K-5 teachers to help them integrate this. And for grades 6-10, the technology teachers -- which I think they are the ones that should be teaching this, especially at the high school level -- we are creating a network for professional development. And also, following a suggestion that was expressed in the last meeting of the Board, we are preparing a computer science and computer engineering course for grades 11 and 12 that is essential, again, for the children's education, but also for our economy. Your vote can make Massachusetts the hero of the day, and I hope you will vote positive.

**APPROVAL OF MINUTES**

**On a motion duly made and seconded, it was:**

**VOTED: that the Board of Education approve the minutes of the November 27, 2000 Special meeting and the November 28, 2000 Regular meeting as presented by the Commissioner.**

The motion was made by Ms. Crutchfield and seconded by Dr. Schaefer. The vote was unanimous.

**FINAL ADOPTION OF EMERGENCY AMENDMENTS TO SPECIAL EDUCATION REGULATIONS (603 CMR 28.00 and 18.00) – Discussion and Vote**

**CHAIRMAN PEYSER**: You may remember a few months ago, following the legislative action over the summer, we adopted new regulations governing special education. We adopted them in emergency form as per the rules promulgating regulations. Those regulations have now come back for final approval after public comment and additional modifications. So with that, Commissioner, I'll turn it over to you and to Marty and Kristin to explain what may be new compared to what we saw in September.

**COMMISSIONER DRISCOLL**: The first thing I want to do is thank Kristin and Marty who have done a tremendous job. This is a phenomenal undertaking, and it was quite a juggling act to take what had been there, what was part of the outside sections, and put it all together in such a way that it fit with what we think is right and what the legislative intent was. And that sounds easy, but it's most difficult as you go through word by word. And I think they have done an extraordinary job. I want to make sure that everybody understands that the yellow sections represent the changes that were adopted in September and the blue are additional changes have been made since. I really only have three comments to make. First of all, the question has been raised by the Chairman and others, on page 3, as to the blue section, as to whether or not that does comply and coordinate with, if you will, the federal law, and it does.

**CHAIRMAN PEYSER:** That is in fact the language that is in the federal regulation.

**COMMISSIONER DRISCOLL:** On page 5, Ed Delattre and others have raised the issue and it's quite legitimate. I'm requesting that the Board make a slight change, it's the only change I'm recommending, and that is-- in the general responsibilities of the school districts, change number 3 to "accommodate diverse learning needs" rather than "diverse learning styles". I think that better describes what it is that school districts should provide. So change the word "styles" to "needs". Finally, let me thank Connie Rizzoli and Sylvia Smith and the folks from Senator Antonioni's office and Representative Harkins. You will also see in 28.06, on Placement Types and Service Options, that we have taken out the word "types." You will see there are some changes there and, again, the most difficult part here was to keep faith with the legislative intent, and we have been able to do that. So it is kind of a juggling act but yeoman's work, and I think we have it right. It does have the support of the education chairs which is most important, and I recommend it to the Board.

**CHAIRMAN PEYSER:** I would like to follow up with a question on the last point. Under these regulations, the teams will now determine the specific placement, not simply the type of placement, leaving it to the administration to

determine which option makes the most sense for the students, the school, and district. My question is: How big a deal is this? Do we have any sense that by having teams retain-- perhaps that's not the right word—rather expanding team authority in some cases, or at a minimum, by teams retaining the authority to designate the placement, are we likely to see any significant change in the kinds of placements that students actually receive? In particular, are we introducing new rigidities and higher costs into the system than would otherwise be the case if there were greater flexibility at the administrative level to make these decisions? Do you have any sense of the magnitude of this?

**MS. MITTNACHT**: Yes. Although we had intended, the Board had voted last spring to change that, your use of the word "retain" is absolutely appropriate, Jim. The outside budget sections did clearly direct the Board to readopt, if you will, the language related to the team determining placement. So I do not see this as a major change. I see this as consistent with the role of the team in the past. And since we made it very clear, very early, once we heard about the outside budget section and the impact of this, essentially I believe that the role of the team has remained unchanged through these regulations since last year.

**CHAIRMAN PEYSER:** I have one other question at this point. A team is obviously a group of people who tend to operate through consensus, and they do include parents who effectively have veto authority over decisions that are made by the team. What happens when a team can't come to agreement around what the appropriate placement is and how does the placement decision actually get made under these rules?

**MS. MITTNACHT**: Generally speaking, if a team doesn't have any specific "we would like this school" or "we would like this particular place", they do come to an agreement around the type of place that they want. Then the parent and the school district, together, work cooperatively to ensure that they are implementing that placement through determination of the team. I would note that there is also, as part of the outside budget sections that were integrated into these regulations, some caveats for the team's choices. The teams must pay attention to the least restrictive environment requirements of the law, they must give preference to approved programs, and they must give preference to programs that are within the state of Massachusetts. With those sorts of caveats, the school district may sometimes find that they are not implementing what the team had initially said they thought was the right specific location because they are making sure that the student is being served as close to home as possible, which is what the law requires.

**CHAIRMAN PEYSER:** But, for instance, is there some provision for going to some kind of arbitration or special education hearing to resolve disagreements that may occur within the team, between other team members and the parent?

**MS. MITTNACHT**: There actually is a regulation, I don't have the citation offhand, but there's a regulation that says if a team does not reach agreement, it's the responsibility of the school district to make a proposal to the parent, because the team is not a democratic process. It is the offer of the IEP and the placement is an offer from the school district, so if there is a disagreement, the school district has an obligation to make an offer to the parent. And if that's acceptable to the parent, then fine; if it's not acceptable to the parent, the parent always has the appeals process and various other complaint and other types of processes to resolve that dispute.

**On a motion duly made and seconded, it was:**

**VOTED:** **that the Board of Education, in accordance with G.L. chapter 69, § 1B and chapter 71B, as most recently amended by Chapter 159 of the Acts of 2000, and having solicited and reviewed public comment in accordance with the Administrative Procedure Act, G.L. chapter 30A, § 3, hereby adopt the amendments to the Special Education Regulations (603 CMR 28.00) and the Program and Safety Standards for Approved Public or Private Day and Residential Special Education School Programs (603 CMR 18.00) as presented by the Commissioner.**

The motion was made by Ms. Crutchfield and seconded by Dr. Delattre. The vote was unanimous.

**MS. MITTNACHT**: Excuse me, is this approved with the Commissioner's recommendation?

**CHAIRMAN PEYSER:** Yes. Thank you for clarifying. Approved with the changes that were referenced in the Commissioner's opening remarks.

**MS. MITTNACHT**: That also includes section 18 regulations?

**CHAIRMAN PEYSER:** My intention was to adopt both of those in block.

**SCHOOL BUILDING ASSISTANCE: AMENDMENTS TO REGULATIONS (603 CMR 38.00) – Discussion and Vote**

**CHAIRMAN PEYSER:** Under school building assistance, similarly we have adopted not in emergency form but in provisional form, regulations which went out for public comment, also in September. They have come back with a few relatively minor changes, and we are now back for final consideration and adoption. Commissioner?

**COMMISSIONER DRISCOLL**: Democracy is a wonderful thing. We have this multibillion-dollar program and we have no public comment, correct, during the public comment period?

**MR. WULFSON:** Right. These are technical changes. We made substantial changes last spring. This just brings it into compliance with the enacted statute that came in over the summer. We had a few people that commented on the program in January, and changes they'd like to see, but we'll deal with that in our next cycle of substantive changes.

**COMMISSIONER DRISCOLL**: Basically we are recommending deleting two sections, both of which have really been superseded. We added a new section just to talk about the calculation, and then the rest of it is just housekeeping. We changed the names and numbers. So it is really very minor for what we sent out.

**MR. BAKER:** Why do you think there's no comment? That's amazing to me.

**MS. CRUTCHFIELD:** I'm curious about that.

**MR. WULFSON**: Because of the nature of the changes required by law. The law changed so we have to bring the regulations into compliance with the law, so how can you object to that?

**CHAIRMAN PEYSER:** We can keep it open and invite more.

**MS. CRUTCHFIELD**: No, that's okay; I was just curious.

**MR. WULFSON:** There has been a lively debate going on with the field on the implementation of many of these new issues in terms of how incentive points will be awarded and grandfathering, but that's being done at a different level.

**MS. CRUTCHFIELD:** That's the next step?

**MR. WULFSON**: Yes, that's actually a process. We are issuing policy advisories and having a lot of these local officials trying to help us feel our way through this.

**CHAIRMAN PEYSER:** On that note, I'd probably underscore the fact that in our budget that we adopted in November, we included additional funds for this office, in particular, to oversee and manage the new responsibilities that they have under the law, as well as their old responsibilities which had not been adequately supported through staff and funding. And this is a big deal because for this new system to work well, the state has to be adding more value than it has in the past and to be making more judgments about particular aspects of school building and school maintenance programs in districts. So in order for this to work, we have to obviously have the regulations in place as a baseline but also need the resources in the staff in order to implement it properly. So if there's no further comment, is there a motion to approve the regulations?

**On a motion duly made and seconded, it was:**

**VOTED:** **that the Board of Education, under authority of G.L. Chapter 69, Section 1B and G. L. c. 70B, § 3, and having solicited and reviewed public comment in accordance with said Chapter 70B and**

**General Laws Chapter 30A, the Administrative Procedure Act, hereby adopt the amendments to the Regulations on School Construction, 603 CMR 38.00, as presented by the Commissioner.**

The motion was made by Ms. Crutchfield and seconded by Dr. Schaefer. The vote was unanimous.

**CHARTER SCHOOLS**

**a) SABIS International Charter School Management Contract – Discussion and Vote**
**b) Amendments to Charter School Regulations (603 CMR 1.00) – Discussion and Vote**

**CHAIRMAN PEYSER:** Commissioner, if I'm not mistaken, 3A, which has to do with the management contract which is up for review with SABIS International in Springfield is being postponed until next month.

**COMMISSIONER DRISCOLL**: Correct. You may remember that the Inspector General wrote to me with a series of comments following his investigation of the contract and his review. We worked with both parties in the hopes that we could present something to the Board that addressed all those. The Inspector General has rewritten and has raised a couple of issues, so what I would like to do is bring this back to the Board in January. It gives us an opportunity to not only carefully review what he has recommended, but also the time to discuss and make further changes, if necessary.

**CHAIRMAN PEYSER:** The second part of this is adoption of the regulations that were sent out a couple of months ago for public comment. The one piece of this which we are not considering at this time is the section that dealt with the so-called card check provisions which had to do with the process by which future charter schools may be organized for collective bargaining purposes. As the memo in the packet indicates, we have received several public comments that questioned the appropriateness of this Board in drafting regulations specifically governing labor relations, which typically are covered by the Labor Relations Commission and their regulations. We did have informal consultations prior to the promulgation of those draft regulations but, as a result of these comments, the Commissioner is pursuing more explicit and written communications with both Labor Relations Commission and the Attorney General's Office to clarify our authority to promulgate such regulations. So rather than bring them up now and rather than discuss the merits of the regulations as they exist and other substantive comments, we're going to postpone that hopefully to no later than next month's meeting. But in the interim, we hope to move on the remainder of the regulations that are before you in the green pages. Commissioner?

**COMMISSIONER DRISCOLL:** Unless Susan or Kristin have any comments, I think it's pretty clear as to what we have added and deleted.

**MS. BARKER:** We made recommendations, generally, in three areas. One is to bring the regulations in line with the new statutes that were signed in August, and the other is to talk about the need for teachers to take the teacher test here in Massachusetts. The third section, as the Chairman just talked about, we'll deal with again in another month or so.

**CHAIRMAN PEYSER:** There was some public comment but not a lot. I would like to make a comment and see what your reaction is. My understanding is that someone who wants to teach in a charter school -- let's say middle school history-- would take the communication and literacy portion of the educator certification test as well as the appropriate subject matter test. Presumably, in this case, it would be a middle school history test. If this person passed, he would be eligible for employment in a charter school. Once hired, if he ended up with an assignment that was different from what he had tested on, or if he had additional responsibilities beyond the subject area tested on, he would not have to go back and repeat the testing process.

**MS. BARKER:** That's correct. That would be in line with what the statute said. I'd just be curious to know what the discussion between the Labor Relations Board and the Board of Education is all about, because I know a lot about the Labor Relations Board.

**COMMISSIONER DRISCOLL**: I think the comments and concerns of the public were that this part of the statute rightfully belongs under their jurisdiction. As the Chairman suggested, there were some informal discussions in which they didn't seem to want to play. We have some time to examine and discuss that exact issue. If you want to help out as a member, that might be helpful.

**CHAIRMAN PEYSER**: Essentially, the amendment to our statute was to the charter school statute, not to 150(e) which is the Labor Relations Commission statute, although it references 150(e) in the amendment. Therefore the Labor Relations Commission's first take on it informally was—that's your problem, not ours. By the same token, they don't relinquish any obligation or responsibility for dealing with disputes that will arise under our statute and our regulations. So there is this overlapping jurisdiction, at a minimum. And we just need to resolve that before we move forward.

**MR. BAKER:** Did you talk to Jim Hartnett about this?

**CHAIRMAN PEYSER:** Yes. He was actually -- he helped broker the discussion with the Labor Relations Commission a couple months ago.

**MR. BAKER:** Because there's a lot that goes before the Labor Relations Board that involves disputes that aren't based on procedures or protocol that are set up by them. They end up interpreting a lot of other people's procedures and protocol. This would not be unusual --having us develop the procedure and protocol and having them interpret it or comment on it. That's in fact how it works in most public entities.

**CHAIRMAN PEYSER:** Again, that was our initial take on this as well, but we are, as I indicated and the Commissioner indicated, trying to be responsive to the very strong public comment that we received questioning whether we had the authority itself, and we want to clarify that in a formal rather than informal way before we proceed.

**On a motion duly made and seconded, it was;**

**VOTED:** **that the Board of Education, in accordance with G.L. chapter 69, section 1B chapter 71, section 89 as amended by Chapter 227 of the Acts of 2000, and having solicited and reviewed public comment in accordance with the Administrative Procedure Act, G.L. chapter 30A, section 3, hereby adopt the amendments to the Charter School Regulations, 603 CMR 1.00, as presented by the Commissioner.**

The motion was made by Ms. Kelman and seconded by Ms. Crutchfield. The vote was unanimous.

**REVISED CURRICULUM FRAMEWORK IN SCIENCE AND TECHNOLOGY/ENGINEERING – Discussion and Vote**

**CHAIRMAN PEYSER:** Now that you have the warm-up from the public comment, the Commissioner would like to comment.

**COMMISSIONER DRISCOLL**: Yes, I'd like to make a few comments. Perception is interesting. Most people would acknowledge that the first science and technology framework was developed with strong input from the field, while a lot of people perceive that this one wasn't. That is a perception. I can tell you, having been involved as a Deputy Commissioner in PALMS as a principal investigator during in the first development and as Commissioner during this one, that this framework, in many ways, involved many more classroom teachers, specifically science teachers-- and of course TEAM. And I don't accept terms such as "a mile wide and an inch deep", or "cocktail party."

When we first developed the standards, it was the first time that the Commonwealth of Massachusetts, Department of Education, and the Board of Education had developed frameworks. I think people were fairly timid about having the state get too involved. Now some people use that as a criticism. I don't see it that way. Our math framework was very much criticized, for example, by outside groups as well as national groups, because it was too broad and difficult to get your arms around some of the standards. I think we have made a tremendous step forward in our later framework. That really is what has happened here. I believe that there was this sense, interestingly enough, that it should be the state that says "This is it", while not getting too involved. So we wound up in 1995 with a broad framework that wasn't very clear to teachers and, interestingly enough, tried to tell the world that the world was going to change. If you were teaching biology, chemistry, and physics in some order you were doing it wrong. You needed to have an integrated approach. It was about what kids should know and be able to do when they get to the 10th grade; add a little bit of this, and a little bit of that, as the representative from Burlington so well pointed out. It was so well received by the field that somewhere around 85 percent of our high schools completely ignored it and continued to teach biology, chemistry,

and physics. About the only change was to move physics to the freshman year, which is what I think Brookline and Newton have now done in this new configuration.

There was this idea that in Europe they were doing it in an integrated way, but we now know Europe was doing it in concurrent way: biology, Monday and Tuesday, chemistry Wednesday and Thursday. I don't think TIMSS is criticizing American public education in science because of the standards. It absolutely is about the understanding. This issue that we need to make sure that kids understand is absolutely correct. It was absolutely correct with respect to the mathematics framework. But again, I think we have to ask ourselves, What is a framework and what is it that we are trying to accomplish?

I'm very proud of what we have put forward here. I was asked a number of times to "Ask a Teacher" so I asked teachers and they said to me, "Look, we know what we are doing, tell us what it is that you want in terms of standards. Be clear on the standard and then leave it to us. We know how to motivate kids, we know what we need to do to make classrooms come alive, we need to make those connections to English." I would submit to you that's what VES is all about. It allows teachers to talk to one another across districts, eventually across the country, about the things they are doing. It's very exciting to watch 2nd grade teachers talk about what they are trying to do.

Some say this is a laundry list of standards while acknowledging it is very clear about the expectations of what we're going to assess. So how do we make it then come alive? How do we make it so it is not just a list? People say it's so many standards that you divide by. Somebody who divides 36 standards by the number of weeks is not really talking about the connections and the direction that we hope to see. So how do we make it come alive? I would submit to you that this is the one criticism of this document that I think is quite valid. It's quite valid in the short run, and hopefully it won't be valid in the long run. We do not have many good examples and exemplars to make these standards come alive. I think that's typical of a framework development because that's the last thing you get to. It's happened in every framework we have ever done; it's the thing that gets shortsheeted at the end. So we recognize that and intend, during this period that we always have of making adjustments and technical and editing changes, to beef up the examples as well as we can do it. But even that's only the short run.

Somebody used the analogy of what the world is like today as President-Elect Bush takes office compared to what it was like when his father began 12 years ago in terms of the Internet and technology. It's unbelievable; it's incredible. This becomes a dynamic document because the examples, exemplars, and classroom examples, via the Internet and web-based technologies, will just explode. In the short run, we have to beef it up and we intend to do that. When you see the final document, as you see in mathematics, we will have a lot more examples. But more importantly, as for the long run, this gives us the anchor, the clear standards that people can add to.

I do think we have kept faith with people who believe in the integrated approach and the importance of inquiry, because this framework is just that. It's a framework and it establishes, in my view, the playing field in which our teachers, science coordinators, higher education, and the science community can make it come alive. I'm very pleased with it. I can't begin to tell you how many classroom teachers have been working on this, and communicating back and forth. This idea that this just dropped out of the sky is unbelievable. I have been working with TEAM since 1993. This is going to be historic in terms of engineering. You have to see Tufts at work in classrooms in Massachusetts to see how it can come alive. Engineering is the hook; a little design comes alive with engineering. But beyond that, it seems to me that with the technology teachers who were successful in getting in the raw science and technology we have kept tremendous faith. Here in Massachusetts, for the first time in the country, technology standards-- not educational technology, technology standards-- are for all kids grades six, seven, and eight and will be assessed and taught by technology certified teachers. It's a major step forward. Again, I think this is a terrific document and I thank everybody who worked on it.

As for criticisms of this current framework, several are accurate, but I believe that it's not the document that needs to change in as much as the way we make it come alive. It is absolutely about the understanding. I think we are going to see that with the two schools that are coming forward today from Lawrence and Holyoke. It's not what's written on the paper, although we want to make sure that that's clear, it's how it comes alive. In this framework we have made sure that the standards are what teachers, science coordinators, higher education, scientists, and associations, have said: Yes, this is what constitutes the right standards; we'll take it from here.

The Edgerly Awards illustrate this, for me. When we have schools that focus and understand that the issue is not an extraneous thing but one of getting kids actively involved in making connections and making our standards come alive, you see the strength of what this kind of a document can do. And SAT II's are not going to do it, not a norm-referenced test. Our assessment test for people who are paying attention really does require understanding. That's why the mathematics, if you look at the 10th grade, it's not just about knowing the facts, they then have to apply them. And that's where the big change is. The assessment is requiring this understanding, the framework is clear about the standards, and so I strongly recommend it to the Board.

**CHAIRMAN PEYSER:** I would just add a couple things. One is to underline some of the points you made about the process. I think the process, certainly compared to other framework experiences we've had, has been extremely positive, one for which the folks at the Department deserve a lot of credit, but also for the committees and the participants who are practicing scientists, including folks from higher education and K-12. The efforts of all of those people to try to create a document that met a very high standard is really quite commendable.

In addition, the document itself does some very important things. It recognizes the continuing importance of discipline-specific high school science, it introduces stronger content standards, plus an important element of that-- the identification of core standards in the context of a more comprehensive set of standards for various courses. The introduction of end-of-course assessments is a critical reform in the way in which we implement this framework through the MCAS system. In addition, as has been mentioned several times, the introduction of engineering into the curriculum is of vital importance-- not only in terms of providing new access to important academic and career paths, but in doing what the Commissioner indicated and what others have said, which is to use engineering as a means of pulling together various strands of science, math, or other parts of the curriculum in a way that is interesting and exciting for students. I think all of those things are extremely important and I believe this document represents a major step forward and one that has the potential to significantly improve the quality of science education in the Commonwealth. Are there other comments that the panelists might have about the document in general or in particular?

**DR. SCHAEFER**: I'd just like to underscore and pick up on the point that Jim made about the importance of the involvement of the higher education community not just in the science framework but in all of them. On behalf of the Board, I would like to express our thanks to all the people in higher education who have been involved. I hope for their continued involvement because this is, after all, self-interest and rightly understood. They are the recipients of the products from K-12 and I think that they recognize now the importance of being involved in what is going on in K-12, and I really appreciate their involvement and I hope it will continue.

**MS. KELMAN:** In the biology and chemistry strand, there are a couple of places where the word that they use to qualify the strand is "recognize" or "state." It seems to me that we are not really asking for any level of comprehension by asking someone to recognize that the six most common elements in an organic molecule are carbon, hydrogen, et cetera, et cetera. Is it too late to change the wording to something like "understand the role of" or something along those lines?

**COMMISSIONER DRISCOLL:** Sue -- can you address this?

**MS. COTE:** The committees-- teacher working groups-- spent an awful lot of time with those verbs. The standards you see in front of you are for first-year introductory courses. A lot of learning standards begin with such words as "explain" or "analyze", which involves a much deeper understanding. Some of the things that those students will be learning may be on a topic that's being introduced to them for the first time as a 9th grader. At that point, we expect a lower level of understanding on that specific thing. We expect that all kids should be able to recognize something, and when they get into their second course we get into a deeper understanding of that topic. Most of them at the high school level expect a greater understanding. Using the word "understand" is not good enough. What level of understanding do you mean? That's why we were very specific in choosing those words. When you see a word like “recognize” in there for a 9th or 10th grader, it's probably that specific learning standard, it may be the first time they are being introduced to that specific thing, and therefore all students are expected to have a lower level of understanding on that specific item, and it will be elaborated on in later courses that they take.

**CHAIRMAN PEYSER:** Following up on that, on page 30, under Biology section 1.2, “Recognize the six most common elements in organic molecules”: is it that you will recognize the symbol and be able to identify the elements or is it something else?

**MS. COTE:** My interpretation of that standard is that students should be able to recognize that those six elements are found in all organic molecules, and they should know the symbol for them.

**CHAIRMAN PEYSER:** For the sake of clarity, are we asking that students are able to identify the most common elements in organic molecules as opposed to being able to see an H and know that it's hydrogen?

**MS. COTE:** Yes. That would be a difference, obviously. To see an H and know it is hydrogen is what they were introduced to in 6 through 8, and now they are making that connection to elements in all living things. They are making that connection.

**CHAIRMAN PEYSER:** I don't want to overdo this but it might be to “recognize the six organic elements of molecules” is not as clear as what we are actually expecting students to know. "Recognize" is a term that says I have some -- I was going to use the word "understanding", but that's obviously a loaded word. It registers, I guess, something that says, “Aha, I remember that” as opposed to “I can identify the six common elements.” I think Jody is raising a valid point.

**MS. COTE:** The working groups had Bloom's taxonomy and a lot of different words they were working with and they put a lot of work into identifying what we expect all students to be able to do with those learning standards.

**MS. CRUTCHFIELD:** I was fine until your explanation.

**MS. COTE:** Sorry I spoke.

**MS. CRUTCHFIELD**: No, I'm not sorry you spoke. I just wonder what I'm going to be able to do once I recognize whatever it is I'm recognizing. What am I going to be able to do? It feels like a soft word to me now and I just wonder what am I going to have? "Register" is a good word. I don't think you want to use it, but what am I going to be able to do even at a very basic level once I recognize it. I don't need an answer now. That's just the question that came out of your explanation.

**DR. THERNSTROM**: Soft words are inevitable, Pat. "Explain" is a soft word, "describe" is a soft word, et cetera.

**MS. CRUTCHFIELD**: I'm just raising the point.

**DR. THERNSTROM:** I think these people have wordsmithed this to death. We don't need to micromanage it.

**MS. CRUTCHFIELD**: No, but I want to be able to know what I'm expected to do.

**DR. THERNSTROM**: I don't know what you're expected to do when it says "explain" or "describe". The fact is, this is just not as important, it seems to me, as we are making it, and you do need to be able to recognize things before you go into some sort of fancy understanding of them.

**MS. CRUTCHFIELD**: I still don't know what I'm supposed to be able to do. That's all.

**CHAIRMAN PEYSER:** Maybe as part of the inevitable cleanup of documents before final publication, you can revisit at least the word "recognize".

**MS. STOTSKY**: All of the verbs.

**MS. CRUTCHFIELD**: Not all of the verbs.

**CHAIRMAN PEYSER**: "Recognize" is an interesting word.

**MS. CRUTCHFIELD:** Just looking for clarity.

**CHAIRMAN PEYSER:** There is some ambiguity to it.

**MS. CRUTCHFIELD**: The document as it stands is wonderful.

**COMMISSIONER DRISCOLL**: I will leave it there. But I'm glad you were not on the writing committee. It's very clear to me, but I sometimes think like a 3rd grader. I just hope when they see living things and they know there's atoms and so forth that they'll recognize that there are the six big ones. We could probably test that, Jeff.

**CHAIRMAN PEYSER:** So if you get the words "six big ones" in there, we'll be accurate.

**MS. CRUTCHFIELD**: Just for one little word.

**DR. DELATTRE**: I don't want to edit your document. It's obvious that it's going to be adopted today and it's obvious that there's no possible warrant for retreating into the earlier framework. I have no doubt that the standards in this document can be made to cohere with MCAS examinations. And I think that the document can be implemented in such a way that students will score very well on the MCAS examinations with which the framework is made to cohere. My concern is that we still won't know that students are learning science or coming to understand science.

I appreciate your vaunting the process in framework formulation now. I think some mistakes of judgment were made in that process about which scientists to listen to and which caveats about understanding science and the necessary conditions of understanding science to listen to. I have written a letter to the Board on this matter. I don't propose to read the whole letter now; I plan to read a small portion of it. But I don't want you to think of it as an effort to influence the vote today. I want you to think of it as a warning about what may actually happen with curriculum because of this framework, and I hope that, in due course, you won't get caught up in the circular argument that says the students are doing well on the MCAS, so they must be learning science. If I'm right, this framework could lead to a MCAS that's largely a vocabulary test and doesn't show understanding of science. The real progress that we are all interested in our students making may not be there, but may appear to be there.

I think the new framework is admirable in its intellectual ambitions, and I think it's rich in its content in biology, chemistry, physics and astronomy, geology, and oceanography. I think it will be improved by the examples that you promise to add to it. I know that the outlines of topics mirror specific discipline standard textbooks frequently used in the schools. It seems to me to be far superior to much of what we had in the prior framework or frameworks. But I think that there's a risk that this framework will function as a prescription for the simulation of science education rather than science education itself. The concepts and principles that students have to learn are enumerated here, but the framework is silent about what is involved in attaining genuine scientific understanding. I think there's a risk that this framework will be used in curriculum design rather like a checklist. I don't claim that it's a mile wide and an inch thick; that's not my position at all. I think that if it ends up serving as a checklist, it will serve in the place of and disguise the fact that many students are not really learning science.

I want to use an illustration from the philosopher Stephen Toulmin who writes widely about what's involved in gaining genuine understanding of science. One of the examples he uses is the Principle of the Rectilinear Propagation of Light, the principle that light travels in a straight line. "The very idea that one should talk about anything as travelling in such circumstances," Toulmin notes, "[is] the real novelty." He goes on: "It is worth emphasizing how far the physicist's way of looking at optical phenomena is a new way, and how far by accepting it we are required to extend the notions of light and travelling. Until one has been introduced to the fundamental ideas of geometrical optics, there is no way of understanding what it means for a physicist to talk about light travelling. He clearly does not mean 'sending lanterns by rail,' nor can he mean 'cloud-shadows drifting across grass,' for he talks of light travelling equally whether the patches of light are moving or still. Indeed, it would be somewhat queer," he says, "in the sort of situations in which the physicist is concerned, to talk in the ordinary sense of the word of anything 'travelling' at all."

And he explains that to understand the Principle of the Rectilinear Propagation of Light, one has to see how it is actually used in geometrical optics to explain phenomena including such phenomena as the length of shadows. This involves, for example, drawing a diagram, with perpendicular lines representing the ground and the wall, and a third

line representing the propagation of light at a particular angle. "In such a case as this," Toulmin says, "appeal to the principle means to the physicist something like the following -- that the optical phenomena to be expected in this situation can be represented, and so explained, by drawing a straight line at the appropriate angle to the line representing the wall; that this line will mark the boundary between light and shade; and that one can read off such things as the depth of the shadow from the resulting diagram, confident that the result will be found to agree with observation within limits of accuracy." And he concludes, "The [person] who comes to understand such a principle is not just presented with the bare form of words, for these we have already seen to be on a naive interpretation quite false; he learns, rather, what to do when appealing to the principle," not recognizing what appealing to a scientific principle means, "in what circumstances and in what manner to draw diagrams or perform calculations which will account for optical phenomena, what kind of diagram to draw or calculation to perform, in any particular case, and how to read off from it the information [the scientist] requires."

Now, my concern is what the science standards here, which I acknowledge to be an improvement, provide. My concern is that we are at risk of students learning the bare words. For scientists with the requisite background, those words take on meaning. And really qualified teachers of science will know how to make the words in this framework come to life in classrooms, but those are the teachers who don't need a state curriculum framework in science anyway. If all the teachers were that qualified, we wouldn't need Education Reform. My fear is that many other teachers won't know as much as the very best, and that among their students there is the risk that this framework will be covered in the way of vocabulary. It won't be covered in such a way that the students will know, as Toulmin describes, what actions are called for to perform by such principles as the Rectilinear Propagation of Light. I hope that two years from now, three years from now, when you are looking at MCAS, looking at the framework, and looking at classrooms that you won't have a closed circle to tell you whether or not the students are learning science. It's a more subtle problem than that. Thanks very much.

**CHAIRMAN PEYSER:** Thank you. I recognize and affirm most of what you said. I think there's no question that most frameworks, not only here in Massachusetts but around the country, are insufficiently robust in providing the kind of depth of explanation and insight into how to teach as they should be or as they potentially could be. I have two thoughts: One, I'm not sure that any state framework document is capable of achieving such heights. There are such risks in grasping too much or attempting to grasp too much through such a document that inevitably it becomes too rigid and introduces the danger of putting more weight on the document than it can stand, or perhaps that it should.

The second thought has to do with the history/social science framework. Susan Goldsmith prepared a curriculum guide which is quite helpful in trying to interpret the framework, but may not have been appropriate to incorporate into the framework. I believe there is a role for documents like that whether they are official or quasi-official or simply put into broad circulation. They can be tremendously valuable in helping teachers across the board to interpret frameworks and to apply them in sensible and effective ways. As with social science, we have talked about the use of assessments beyond the MCAS, and the paper and pencil assessments that we currently have in place, and moving towards local lab assessments which will allow for fuller evaluation of whether students actually do understand more than the definitions of terms. I think that needs to be part of the assessment strategy as we try to implement this and produce the results that you and I both want.

**DR. DELATTRE:** If you accomplish that with those, not just supplementary but other ways of assessing what students are learning and know and what they are not learning, and if you have a really good scope and sequence for these disciplines, integrated and distinctly, it could be a real step up.

**COMMISSIONER DRISCOLL:** I just want to say that not only do I consider it a warning, but a valid warning. I accept that, that's why I say I accept the criticism. As for the circular argument, hopefully it will be a larger circle than a smaller one; we have been caught up in a smaller circle. If you look at what Uri, in particular, objects to, most of it comes down to the assessment, not the framework. But the assessment was written based on the framework, the old framework.

**DR. DELATTRE:** I don't speak for Uri.

**COMMISSIONER DRISCOLL**: I know, but I'm saying that's the circular argument we had. I'm here to say I accept your warning and I hope that we are on the right track because we have learned a lot since the last framework and this

assessment. I guess human beings need deadlines, that's why people write term papers at the last minute and people submit to their publishers on due dates. What clearly has happened is that the test, and particularly the graduation requirement, has caused this kind of synergy to this point where consequences quicken, and we have seen a certain phenomenon. We should not be calling the test MCAS. That's what it was named but MCAS stands for Massachusetts Comprehensive Assessment System, of which a test at the state level in at least grades 4, 8 and 10 and of certain subject areas is just a part. It should be called the MCAT or something. And so the larger circular issue is that the MCAS should allow for a comprehensive performance assessment approach, not only at the local level where most of it lies, but within the language of the law. Some people now want to make it part of the state responsibility, which it isn't; we are not going to get into portfolios for 950,000 kids. The language of the law was for districts.

We do have, in our own plans, to see the day when we have as part of the state test, experiments being done at the local level in laboratories where we set out the materials, et cetera. What has happened in the smaller circle is that we were not clear on the standards. Now, the best teachers, who simply want to know what the expectation is, have been freed up. An old friend of mine used to say fences free you up. So I hear your warning and I accept it; I accept it as a valid warning.

**MS. STOTSKY:** May I add a comment here in response to Dr. Delattre? Your concern is something I would certainly share for all areas of the curriculum, and certainly for science. Part of the solution lies in one of the intentions we had behind our revision of the teacher certification regulations: to encourage greater collaboration between arts and science faculty and faculty in areas like science and mathematics so that new teachers coming in would have a better understanding of how to teach their subject areas. That is part of one of our program approval criteria. We do want to encourage that collaboration so that new teachers coming in have that way of looking at how they teach students for science.

**DR. DELATTRE:** And if we succeed, it's safe to say that some of them will.

**CHAIRMAN PEYSER:** I will just add that beyond that professional development for existing teachers is another component of this and another development by the Department of content institutes that address exactly the kind of issues that Ed was raising. I think it is also critically important, in addition, to encourage the universities to develop their own programs that recognize the necessity for a depth of understanding on the part of science teachers that may not exist universally among the teaching corps.

**DR. THERNSTROM:** I also appreciate, Ed, the concerns that you've raised, but want to associate myself with some of both Jim and Dave's remarks here. Additional documents can indeed help teachers, as can good professional development. That is a very important piece of this, obviously, but mandating how to teach is not our job; we can't do it, and we shouldn't do it. It seems to me that Dave put it very well, our job is to free up teachers to get it right. It seems to me that this framework does precisely that. If at the end of the day, Ed, you turn out to be right, then it seems to me it's not going to be a problem with the framework, but a larger problem.

**DR. DELATTRE:** I trust it's clear that I have no wish to mandate particular teaching. That's not what this is about.

**MS. COTE**: May I make one last comment? I'm going back into my district very soon. Yvonne and I have been very involved in this process for a year. It seems to me that when people comment on the frameworks, you get the feeling as a teacher that there's not the trust that, if you provide frameworks, teachers will know what to do with them. And as a professional, I know Yvonne and I have talked about this a lot, that bothers me because I think that in most cases by providing teachers with clear standards so that they know what's expected, the majority of the teachers in the state will know what to do with them. And I agree with Dr. Thernstrom when she says professional development for pedagogy and how we teach those standards would be helpful, but we need to look at teachers as professionals and trust them to do what's best for the kids. Provide the support and it will be done in this state.

**DR. THERNSTROM**: I very much like that comment and I thought, in fact, of making it myself. You really have got to have a vote of confidence in the teachers themselves, and I think that that is implicit in this framework.

**DR. DELATTRE**: I don't give votes of confidence ubiquitously to anybody in any profession.

**On a motion duly made and seconded, it was;**

**VOTED:** **that the Board of Education, in accordance with Chapter 69, Section 1E of the General Laws, adopt the revised Science and Technology/Engineering Curriculum Framework and direct the Commissioner to distribute copies to the Joint Committee on Education, Arts and Humanities for the information, and to the public schools and other interested parties throughout the Commonwealth for use in improving curriculum and instruction.**

**Further, that the Board extend its appreciation to the Department and to the many individuals and groups state wide that helped to revise and strengthen the Science and Technology/Engineering Curriculum Framework as directed by the Education Reform Act of 1993.**

The motion was made by Ms. Crutchfield and seconded by Mr. Baker. The motion passed 7-1. Dr. Delattre abstained from the vote.

**MS. STOTSKY:** Could I raise one point? Regarding Commissioner Driscoll's memo about whether Attachment B, the conceptual outline, should be added as an appendix to the final document, I just wanted to remind the Board that this is something you should indicate. This was a new tool we thought might be useful to teachers and others looking at the whole map of the framework.

**MS. CRUTCHFIELD**: You have my permission anyway.

**CHAIRMAN PEYSER:** The motion is in the framework?

**MS. STOTSKY:** No, this is something in the memo to the Board as the cover memo.

**CHAIRMAN PEYSER:** Do we need to take any action on that?

**COMMISSIONER DRISCOLL:** We do.

**CHAIRMAN PEYSER:** What is the specific question before us here?

**MS. STOTSKY:** Should the appendix be added to the final document, the appendix Attachment B?

**MS. CRUTCHFIELD:** Should we just so move and get a second?

**MS. CRUTCHFIELD:** So moved.

**DR. SCHAEFER:** Second.

**CHAIRMAN PEYSER**: Without objection, so ordered.

**APPROVAL OF GRANTS**

**On a motion duly made and seconded, it was:**

**VOTED:** **that the Board of Education approve the grants as presented by the Commissioner.**

The motion was made by Mr. Irwin and seconded by Ms. Crutchfield. The vote was unanimous.

**REPORT OF BOARD COMMITTEE ON COMMISSIONER'S PERFORMANCE REVIEW –Discussion and vote**

**CHAIRMAN PEYSER:** At this point, I would like to move on to a discussion of the Commissioner's performance and salary review. There was a committee including myself, Bill Irwin, and Roberta Schaefer who met by phone, on December 14, to discuss the Commissioner's performance over the past year and to make a recommendation to this Board with respect to salary adjustment for the coming year. There are a couple of things to note. First is that we used three criteria that we used last year and one which we added, actually, through discussion at last year's meeting when we did this at that time. The four criteria we used were: (1) effectiveness in supporting the Board's work, (2) effectiveness in building external support for Board policies, (3) effectiveness in managing the Department and its staff; and finally, and this is the new one, (4) effectiveness in raising student performance.

In applying these criteria we used four basic categories of performance which are used in evaluating managers through the state, among state employees: outstanding, meritorious, satisfactory, and needs improvement. There is a certain structure that the state has for determining salary increases that is tied directly to the overall performance evaluation in those four categories, so the recommendation with respect to salary increase is tied directly to the overall performance rating that we are recommending today. With that as background, I will cut to the chase here. Overall, the committee agreed the Commissioner's performance during the past year has been meritorious. Based on the administration and state salary guidelines, a meritorious rating yields a salary increase of 5.2 percent based on its existing base. We therefore recommend that the Board increase the Commissioner's salary effective January 1, 2001 to $157,221.

Overall, again, we gave the Commissioner a meritorious rating. Breaking it down into its individual pieces, we first gave the Commissioner an outstanding rating in terms of his effectiveness in supporting the Board's work. In particular, the Commissioner has been instrumental in helping us through what I believe has been an unprecedentedly productive year in terms of the kinds of policy decisions and issues we dealt with. They were wide ranging, they were complex, they were controversial, they were administratively difficult, yet we managed to get through everything-- certainly that the Commissioner and I and that the Board as a whole had intended to complete by the end of the year. So this is truly a remarkable achievement for which the Board deserves probably only minor recognition, but the Commissioner and the Department as a whole deserve the lion's share.

Effectiveness in building external support for Board policies: we rated the Commissioner's work here meritorious. The reason it was not outstanding was simply because the results from that effort have not been as obvious, or as manifest, as perhaps any of us would have hoped. This is more a reflection of not only the complexity but the controversial nature of our agenda than it is about the effort extended. I think in any fair evaluation the Commissioner's efforts to build public support for Board policies has been beyond the call of duty. In particular, looking at what he took upon himself with respect to the math frameworks was really quite extraordinary, which did not mean that he convinced everybody that we had made the right choices either in math or in other areas. But nonetheless, his rating, according to the committee, is meritorious in that category.

As for effectiveness in managing the Department and staff, the rating is satisfactory. There were a number of very substantial accomplishments and administrative accomplishments over the last year, some of which I have already alluded to in terms of supporting Board action, but others involved implementation of previously adopted Board policies, and statutory changes for that matter. Several highlights have included: rolling out an accountability system, even under a cloud of uncertainty around the organization of that particular function; managing the complex transition to a new test vendor, which has consumed a great deal of time and effort but which has been successfully completed; and producing major regulatory reforms and the overhaul of several of the curriculum frameworks. This is really a huge amount of work, very difficult to accomplish, and administratively complex. I think the Commissioner has done yeoman's work. There have been some more negative observations and occurrences during the past year, however-- in particular, one that has been noted in the recent press concerning the procurement of technology services and a lack of effective oversight and control procedures. I know there are activities and actions underway now to try to rectify that situation, but certainly the absence of some of those internal control procedures and oversight procedures has been of significance and needs to be addressed.

Finally, effectiveness in raising student performance: needs improvement. Again, there is perhaps a bit of a lag or a disconnect between effort and results here, and that in part is a natural outcome of the fact that the MCAS in particular was administered in the spring. Therefore, the results of a year's work do not get reflected until essentially the following year. Nevertheless, there's no question that MCAS gains have not been what we all would have hoped. They have been modest at best, and there are areas where the Department could improve, especially around not necessarily

the administration of grants, but oversight and monitoring of remedial grants and their effectiveness in raising student achievement. There can be improvement in feeding back to districts the kind of information the Department is capable of gathering with respect to the impact of various remedial programs and various models of remedial instruction on student performance.

Overall, the committee's evaluation by accumulation of the four criteria, the ratings in each of them, is a meritorious rating. I would just add on a personal note, rather than speaking for the committee, that I believe the Commissioner's performance over the last year has not only been meritorious, but has been tireless. This is not an easy job. It is a job that is subject not only to huge administrative burdens, but also presents very difficult and persistent burdens related to delivering a difficult message to a very diverse audience. He has been on the front lines and it is in many respects a thankless job, although I thank you for it today. And it's one for which he doesn't get nearly the credit and praise that he deserves. While this is not an outstanding rating that we are giving the Commissioner today, again, I would say that in part is a result of the lag between effort and results, and I'm hopeful and expectant that we will see the kind of results that we all hope for in the coming year as a result of efforts that the Commissioner has expended in this past year. Any comments, first of all, from committee members, and then any others?

**DR. SCHAEFER:** I second what the Chairman has said and also, while you only thanked him on behalf of you, I think the committee and the whole Board would like to thank the Commissioner.

**MR. IRWIN:** I would just like to mirror what you said. I know the three of us had long discussions about this, and I'd like to thank David for his efforts in this past year also. Thank you.

**DR. THERNSTROM**: Well, Dave, I would also like to thank you. Your leadership has been great and I think appreciated by every member of the Board. And I agree with Jim, this is in many ways a thankless job for which Dave doesn't get sufficient credit. I'm slightly bothered by the last item, I have to tell you, with the implication that on his shoulders rests the job of raising student performance and that indeed better monitoring of remedial grants would have led to higher MCAS scores. So that I have a little problem there.

**CHAIRMAN PEYSER:** I would agree, although by the same token, it should send a signal to everyone in the field, including students and parents, that the performance of the system, as a whole, on MCAS, and to the extent there are other measures of academic achievement of school performance, is not something that's just applied to those people working in the schools or those young people attending school; it has effects on everyone. Our ultimate objective is to raise student achievement. If we do all these great things and have no effect on student achievement, then we would have failed no matter how efficiently we may have gotten to that point.

In terms of the remedial grants, the entire theory of remediation and remedial grants is that they have an effect, but clearly there is limited research in the field, certainly limited research with respect to MCAS performance, that would demonstrate what the linkage is and how to replicate it and expand it. I think we need to do a lot of work in that area. I would agree; monitoring alone does nothing. However, the lessons we draw out of that monitoring, in theory, may lead to better grant applications, better selectivity in the grants that we do fund, and better dissemination of successful practices.

**MS. KELMAN:** I just wanted to add my thanks on behalf of the students of the Commonwealth.

**MS. CRUTCHFIELD:** I just want to say thank you, David.

**MR. BAKER:** I'm not going to say thank you, David. What I am going to say is one of the things that my dad said to me many years ago about the public sector: There are people who take jobs in the public sector to have them, and others take jobs to do them. If you take the job to do it, you will probably find it far more difficult, far more challenging, and far more personally difficult than if you merely took it to have it. I don't think there's any doubt that you took this job to do it, and I think everybody is far better off as a result.

**COMMISSIONER DRISCOLL:** Thank you.

**CHAIRMAN PEYSER:** With that, is any further discussion? And if there isn't, I'd entertain a motion to adopt the recommendations of the committee.

**On a motion duly made and seconded, it was:**

**VOTED: that the Board of Education approve the committee's recommendation on the Commissioner's performance review.**

The motion was made by Ms. Crutchfield and seconded by Dr. Thernstrom. The vote was unanimous.

**COMMISSIONER DRISCOLL:** I will be very brief, because I know our friends came from Holyoke and Lawrence, both of whom probably didn't have school today. I want to thank the Board, first of all. I don't take exception, I don't want you micromanaging the frameworks, I don't want you micromanaging my evaluation. I take it in the spirit that it's meant and, frankly, I don't mind that. That is to say that I think all of us had hoped that we would have made more progress than we have, and I simply think that's because it's harder than it looks. It's very difficult. As I said before, when I visit urban schools and so forth, it's easy to say, "Follow the frameworks, align the curriculum." I mean, some of these kids, particularly at a young age, can't sit still. But I do take responsibility and I think I should be held responsible for moving the whole system and seeing scores come up and seeing improvement, so I take it.

Sometimes you learn you have expertise that you didn't realize. When I became a Deputy Commissioner, I actually didn't know that I had all this tremendous knowledge of districts in Massachusetts even though I was active in the state associations and I had taken an interest in other people, but I really understood schools and districts. I could tell you things about schools and districts even before I became a deputy. And Paul is smiling, Paul Andrews from Woburn, we knew people across the state. What I've also learned is that I have a full reservoir of knowledge about boards. It's because I've watched school committees and I know about other boards of education across this country. I'm fascinated by boards. I don't know why. I just want to say that this experience working with this Board has been terrific. First of all, everyone is respectful of one another, even when we disagree, and that was not always true of this Board. But it has been the case. And I will always be tireless because that's my nature.

I want to share one goal that I have. I try to pick out individual goals that I need to establish beyond what the Board has done, and I have to tell you, they are achieved not because of me-- it's the staff. This past year the staff has been unbelievable. If you just stop and think about it, forget all the frameworks, special education legislation, SBAB legislation, it's just unbelievable what we have had to deal with as a staff, and the staff has been just absolutely tremendous. One of the things Jim and I talked about is trying to get some of the things off the agenda so we are not quite on treadmills, and we did do some things. But I think my main goal, the thing that I'm most concerned about, is the fact that MCAS is distracting us from our work. That is to say that people are now losing the focus. I'm here to implement the law as is and I feel very strongly about it, but whatever happens, happens. What we have to do, those of us that care very much about increasing student performance, is to find ways to come back together, and that's what I hope to do. I'm going to do an awful lot of work with the field to change current perceptions. If you look at what this Board has done for the schools of the Commonwealth, I think it speaks for itself.

So I see my main job next year to not only focus on student achievement but to somehow heal and bring the field together to get that sense of "we-ness" again. I have already started. We need to be focused on getting kids up over the bar and headed for productive lives and not be distracted by extraneous battles. I want to thank the Board for your help; you have been great.

**IMPROVEMENT PLANS FOR TWO UNDER-PERFORMING SCHOOLS – Initial Discussion**

**MS. DOW**: We are going to do the Lynch School first, and then just as a preface to each of them. We recognize and they recognize that their work to date on these plans represents the beginning of a process, not the end. They have not arrived at a point where the plans are to their satisfaction or ours in terms of giving the level of detail for implementation that will be required. We have agreed in our conversations prior to coming to the Board that we're going to be working together in support of these schools over the coming months. We will help them develop more detailed implementation plans that will help clarify, prioritize, and create more specific time lines and allocations of responsibility so that there can be active tracking of progress and interim benchmarks. At this time, while neither of the

plans satisfies my standards in those respects, they represent a tremendous amount of effort and an important first step for each of these schools. These are schools where there is tremendous need for improvement in terms of student performance and a need to come together and create an infrastructure that can support improvements in team teaching and learning. So we have formed first steps. I'd like to introduce you first to the people from the Holyoke Public Schools, and from the Lynch School, and there are more of them than will come to the table, but at the table will be: Jim McDonnell, Superintendent of the Holyoke Public Schools; Diane Godek, Principal of the Lynch School; and Donna Scanlon, who is the district curriculum coordinator.

**COMMISSIONER DRISCOLL:** In the interest of time, unless Jim or others would want to make any kind of comment, I think we should just open it up for questions. I want you to know that I did visit the Lynch School and I think the Board needs to know that in all of these schools that have been declared under-performing, now four schools, it is a really difficult situation. There are a lot of good people who work hard in these schools and they do take it personally. So it is hard. But it soon gets replaced because the critical mass of professional people really want to do the right thing. There have been a number of changes at the Lynch in terms of personnel and so forth. There's been a number of efforts over the summer and otherwise. They are working very hard to put in place various systems for improvement. Do you want to say anything, Jim?

**MR. McDONNELL:** I'd like to say a couple of things. One, I would like to thank the Department staff for the technical assistance they have maintained at a very high level for the activities we are doing at the Lynch Middle School. In addition to the activities that the Department has done at the Lynch Middle School, they have provided the district with some very good insight, especially in the area of infrastructure and looking at the type of administrative support that we need to deal with educational reform and standards. As a result of that, we were able to hire some additional staff, academic coordinators in the main academic areas, as well as a program assurance and student accountability director which again assisted us in providing the necessary data to use for that decision-making.

I know you've all had a copy of the plan that we have developed to date, and the three key areas in there talk about high expectations for all. And when we say all, we include our large limited-English speaking population. Two, it talks about developing a necessary school climate that would enhance and reinforce and be a climate that would drive high academic expectations for all. And third, it talks about utilizing data in the decision-making process, and when you go through that report for the Lynch School, you will see that those types of activities are incorporated in that.

An outgrowth, quite literally, of the fact-finding report was that I have submitted to the school committee a recommendation of mandatory staff development in three areas. Those areas would deal first with the standards-based education model, a second area would specifically deal with teaching students of limited-English proficiency or teaching students whose native language is other than English, and a third one would be looking at different types of needs to deal with anti-racism issues in the classroom. And we have worked on that with Mount Holyoke College. So we have taken initiatives in that area, we have taken this matter very seriously. We are fortunate for the steadfastness of the Commissioner and Juliane to guide us down the path they have. The plan today I think is a representation of that coordinated effort between the DOE, the school, and the central office to bring that to a point where we can move forward.

**CHAIRMAN PEYSER:** Thank you. I would like to start off, with a general comment. It seems to me in approaching this that there are three basic steps. One is disaggregating the problem into its major components, which is more than just saying, “We are not doing well in reading, writing, and math.” It’s understanding exactly what the components are of that shortfall. It may come down to an analysis of performance in the classroom across different demographic characteristics or any number of ways of looking at the data. Once you've identified what the biggest problems are within our overall performance issues and trying to understand what the root causes are of those problems, then you use that to drive an analysis of what the possible solutions might be, in particular what the priorities should be. I had a hard time extracting from this document what the key components of the problem were, what the root causes were, and what the priorities were but now, in your brief comments, you’ve given a clearer focus than I was able to extract from the document itself. I wonder if you could talk a little bit about the first two issues: What are the main contributing components to the overall performance problem? And what are the root causes with respect to those problems-- why are they are occurring?

**MR. McDONNELL:** If you were to look at the Lynch School, and we'll deal specifically with the Lynch School this morning, you have a student body of close to 400. That student body is made up of a couple of groups, one group primarily Latino students whose native language is Spanish and second language is English, that come from an economic environment that is somewhat problematic. You have a faculty in the school that before last year had been there a number of years, I would say, and I believe this year we have a faculty turnaround of at least 40 percent of the faculty, am I correct?

**MS. GODEK:** 40 percent, yes.

**MR. McDONNELL**: 40 percent of the faculty have been changed to other faculty members. And there are two issues. I think part is the disconnect between the ability of the parent and the child to relate to the school in a very meaningful way at times, where it's not that there's not a concern, it's not that there's not a desire to be involved, but the involvement is somewhat of a disconnect. Secondly, I think a concept that I hope I don't offend anybody with is that there is still is, in many urban concepts of education, this belief in remedial education. You try to focus in the classroom on different types of remedial approaches as opposed to sort of a standards-based approach when there aren't high expectations for everyone. And the point is to develop the instructional programs in that classroom to bring everyone up to that level of accomplishment and the high level of expectation. And those are, I think, two of the issues that we are faced with at the Lynch School.

We have attempted to address those issues in the short run by some additional types of activities that the district will be working at and also the school will be working at. In addition, with the infusion, if I can use that term, of the academic coordinators in the areas of language arts, math, and second-language learning, we're going to have those individuals work in the actual classrooms with the other teachers who are in the school to look at different types of pedagogical activities that are going on and attempt to make a connection between high academic expectations, a school climate that reinforces high academic expectations, and try to involve the parents so that they will see the reality and the purpose of those high expectations. Most importantly, change the direction to where the youngsters are doing a lot more work and the teachers are doing a lot more facilitating.

**CHAIRMAN PEYSER**: Getting back to my original question, you have been talking mostly about solutions, and I'm trying to understand what the problem is. I understand the problem is low performance, but --

**MR. McDONNELL**: From my point of view as Superintendent, some dilemmas we have -- and I actually had a meeting Monday with the Department of Revenue -- where we had to go over our audit of the school district, that I'm happy to report you will be happy to know we did spend the money for the children. So I think that's a key point that I would say today. But I did point out to them and they validated in the report, it is not uncommon, for example, in our bilingual program of approximately 2300 students, to have a transient rate in one year of 600 students. 600 students would come in and 600 students would leave. We looked at a couple of schools in Holyoke at the elementary level, and in looking at those schools, we find in some schools there's a very high level of inclusion. A lot of children are included in mainstream programs. In other schools it may not be. In the Department of Revenue report they clearly pointed out we had made I think a very good effort in reducing our substantially separate classes to involve all the students in the class.

But the overriding and fundamental problem from my point of view is the issue of second-language learning, and everyone taking ownership that all of the students in the school, whether they speak English primarily or as a secondary language, that the responsibility for those kids is for everybody in the classroom. I think two of the fundamental problems is one, the issue of language acquisition and language sophistication. If you were to look, and I'm sure you have because you are often driven by this idea of being data-driven, you would look at Terra Nova and Supera (phonetic) tests, you would see in the elementary grades we are making movement forward, making strides, the test comes out with good scores in language and vocabulary. But as you move on, the amount of these students who make that transition into more inferential type of understanding becomes somewhat problematic. We have a bilingual program where we move students into the mainstream program, into the E.S.L. program, and in doing that we have some issues of finding appropriate certified E.S.L. teachers or appropriate bilingual teachers who are bilingual ladies and gentlemen who speak English and Spanish fluently so they can participate in the classroom.

So if I had to summarize some of the issues that I see would be impediments or things we have to overcome, they would be one, finding the appropriate link to engage the students whose second language is English; secondly, try to find a way to involve parents more in helping the child at home with their work; and third, and most importantly, at the same time looking at a curriculum that moves continually more towards a standards-based higher academic level of achievement. Two points that don't necessarily reflect the Lynch School but are issues that I think reflect the relationship between the parent and the child. In one of our schools, elementary schools where we did a comparison, 47 percent of the students who were in the school to take the MCAS weren't there when they started their schooling. We have a large number of students in the bilingual program. When they are there more than three years, they are there more than three years because they are in Holyoke for six months, they leave, come back five months later, they stay a few months and leave again. I just submitted to the school committee some recommendations on changing the bilingual program, and actually changing some of the rules that govern the bilingual program. So if you're saying to me as superintendent, what do I see as some of the issues, one is the language, two is this whole intent of the high-stakes, building the appropriate culture in the school, and I didn't mention, but I would just bring it up, the whole issue of economics. I don't try to deal with that because I'm not using it as an excuse. There are issues of economics, there are issues of quality of life that can become problematic for some of our students.

**CHAIRMAN PEYSER:** Let me interrupt for a second. How does the performance of language-minority students differ from performance in the students whose first language is English?

**MR. McDONNELL:** We have been finding that students whose first language is English are performing better, and I am actually preparing a report to send to the Commissioner on that. So we do see a disengagement from that. And another point, when you report the data, you report the data as the number of students in the mainstream program, the number of limited-English proficiency students, and you report the number of special education students. When you report the number of limited-English proficiency students, I have been led to believe those are the students that are identified in the bilingual program. We have a number of students in the district who are also in the mainstream program. And if you look at the 4th grade results, I think in the state in the 4th grade you had a common factor of four to six percent that were minority students whose second language was English, while in Holyoke that represents 24 percent.

**CHAIRMAN PEYSER**: All I'm saying is for us to evaluate this report and to deal with the kind of commentary you just made, it seems to me it's important to know how significant the gap is between language-minority students and students whose first language is English in terms of performance.

**MR. McDONNELL:** We are coming back. I can bring some statistics and a couple individuals, if you'd like.

**CHAIRMAN PEYSER:** That would be helpful. The mathematics scores are worse than the ELA, and it raises the question: To what extent is that a language issue? One would imagine that if language were the principal driver that the math scores wouldn't necessarily be worse than ELA. I don't know; that's a hypothesis. But it seems to me that there's a real issue on math, even more than on English, which may have as much to do with the kind of instruction in math or the curriculum in math or other issues which I can't divine.

**MR. McDONNELL**: I'd like to address that right now, if you don't mind. I think that's an excellent point you're making because I have been making it for the last couple of years. When we look at the students' math performance, what I find somewhat troubling at times is many of the students appear to stop at a certain question and they don't answer any questions after that. Sitting with the principals, I'll say to them, I want you to go back to that school and get me information why. Some of the issues that seem to come up is many of the students, again, this is hypothetical because I still have to try to verify it, become somewhat unable to respond appropriately to the question because they do not necessarily understand the language, although it is English and they do speak English to a certain extent.

The example I give is that recently a former committee member was telling me about how her daughter was working on her homework with two other students, and one was a student who had just transferred out of the bilingual program, had made the change from totally speaking Spanish to totally speaking in English, and the homework was causing a great deal of problem for this young lady because she could not understanding the meaning or the grasp of the word "foundation". And it took the mother, this former school committee member, quite a while to explain to this child the issue of foundation, the meaning of the word foundation. I have talked to our department heads in mathematics

because clearly, as you know from other reports, our development of our math curriculum came directly from the staff. We ran the case study, the case study was to look at various types of mathematics programs, and it moved from there. But we are going to be working a little more this year where the principals are going to explain to me a little more why is there that gap. And I concur with you, it's an issue, hypothesis, that really has to be looked at. Is it language or the instructional system? I'm led to believe at this time, based on what I am seeing at some of the elementary grades, it's more a combination of language and linguistic understanding necessarily than pedagogical approach that's being used.

**DR. THERNSTROM**: I have several questions. One, you talked about, I think your word was a disconnect between parents and school, you talked about relating to each other. Do you have in mind something more than insufficient parental support of homework? Is there a larger issue you're talking about? You also talked about teachers having an excessive focus still on remedial approaches. I'm not sure, if you have students who are performing at a very low level, what the difference is between good teaching and remedial teaching. Obviously, these students need a lot of catching up and you could simply call the instruction they are getting remedial. You said you were seeing teachers doing a lot more "facilitating". I'm frankly bothered by that word. I would like teachers to do more instructing, and the facilitating, as I said, does trouble me. You said with respect to second language acquisition that everybody has to take ownership, I'm not sure what that phrase means. So I'm having Jim's problem of still getting my arms around exactly what's going on here, especially because when you turn at both the beginning and the end to the whole question of low-income families and limited-English-speaking students, of course there are schools doing better and worse jobs with precisely that student population. So we need to figure out what the ingredients are precisely of the problem at the Lynch School.

**MR. McDONNELL:** I will try to answer some of your questions. I don't have the immediate memory to answer all of those, so maybe what I can say in general, we are looking at a couple of ways to attempt to increase parental involvement, and a couple of those areas are where we're going to be identifying and hiring parents to basically serve as advocates to other parents in some of the schools to try to have the parents feel more comfortable to come into the schools, and if they feel more comfortable coming into the schools, they'll engage more. Some of the other things I'd be more than happy to respond to, but I don't think you want me to run a monologue here today with individual questions.

**MR. BAKER:** First of all, I want to say I appreciate the fact that you have an enormously tough task, period. One of the questions I would have for you, and this is also for David, as I read through that document -- and I've actually learned more in the dialogue that's going on here about what some of the diagnostics are than I did from reading the document, because I actually thought it was too much. What I did was I literally just took a look and said, "Okay, these are the percentage of kids who failed. Well, then that still means 60 percent of the kids passed the English piece, 20 percent passed the math, 30 percent passed science, and 30 percent passed history. What is it about the kids that passed that is different?" So I wrote down some things. Attendance, particular classes, certain times of day that they have those classes, parent-home involvement, they don't turn over, they are not transient. I guess what I would say is that I think the way one of these reports ought to be looked at is it ought to have a very clear diagnostic about what you think are the reasons for why certain kids do pass these tests. All other things being considered, it could literally be that they show up or because they are there all year. Or they have a particular teacher or they take math in the morning and kids who take math in the afternoon space out or get tired. Then have a set of targeted initiatives, not 50 but five, that are applied directly to whatever those particular diagnostics are. Try to identify whatever it is about the kids who are succeeding and the teachers that they have. Now, I don't know if that's too simple, but the big concern I had when I read your report, and frankly I will make the same comment to the folks from Lawrence, was it looked to me like just an overwhelming agenda. You might be better off picking a much more limited set of opportunities based on the diagnostics and just really driving hard at those rather than to the extent of trying to solve all of it at once.

**MR. McDONNELL:** If I could respond to a couple things. One, we were attempting to address our report based on the fact-finding report so we'd be able to cover those things. And Dr. Thernstrom, I'd like to point out when we are talking about the teacher being the facilitator, I meant the facilitator of instruction. I don't want anybody to think that I want the teacher to be anything other than an instructor.

**COMMISSIONER DRISCOLL:** I'd like to comment. Frankly, I'm cognizant of the Board's time and productivity, and we in education can fill out a lot of forms and somehow we start out not wanting to do that, but we end up doing it. This is a more simplified approach when we first go in. We ask two questions: Do you have a plan? This, of course,

assumes that you've identified the issues. And, do you have the support there and infrastructure there to deliver that plan? Interestingly enough, it isn't about these factors, because they are in all the schools we went to. I think the important thing is we found two not under-performing, even though they had all the transients and other issues. And so somehow we do have to boil this down, I absolutely agree with you, because transiency is a huge problem. And so the question is, given that there are still inroads that are being made, is it a big factor or not and so forth?

I don't want to lose what Jim said because I think it's appropriate. We talk about Jim disaggregating and getting to the core problem, we talk about this deficit or remedial approach, but what they found at the Lynch School in looking at the climate and in having teachers respond was that there was a large number of teachers, and they have been reassigned, who did not believe that kids can learn. That was the issue, particularly for kids whose first language is not English. That's a core problem that I don't think anybody wanted to admit. So I agree with you, Charlie and Jim, I'd like to figure out a way.

**MR. BAKER:** Why wasn't that in the report? Why wasn't that line number 1? I want you to tell me, "These are the things we think are wrong, these are the things that seem to work, and this is how we're going to get at it."

**COMMISSIONER DRISCOLL:** It does seem to cloud it when you start thinking about bringing all of these others issues in.

**CHAIRMAN PEYSER:** The other thing to underscore is our procedural obligation to approve the plan in the first instance. This means you don't want to overwhelm us with stuff to evaluate. We need to be able to focus on a few vital things. A couple of years from now you need to come back and say, "We accomplished what we set out to do." If you give us a full laundry list, it's going to be impossible for us to A.) figure out if you accomplished what you set out to accomplish, and B.) in terms of our understanding and your implementation, to cause people to misunderstand what the priorities are, that everything is of equal weight when in fact they are not. I have only one other question because I do want to make sure we leave enough time for Lawrence. You talk about Connected Math as being a piece of the solution here. Is that currently the foundation for the curriculum?

**MR. McDONNELL:** We have that math program at the school. After a great deal of review and research, there was a decision to use that program. Mrs. Scanlon is director of curriculum. She could answer that in a more meaningful way.

**CHAIRMAN PEYSER:** How long has that been in place?

**MS. SCANLON:** Last year Lynch participated in a pilot of the program and 6th and 7th grade students did experience some units of Connected Math last year, and this year is the first year of full implementation. The school decided to go forward with it. Some of the changes of the program that we saw were in addition to improvements in student achievement, we took achievement, we took a small group in the spring and tested them, looked at the results and got data that made us understand that there was good learning going on. It seemed as though there was an emphasis on both skill and understanding of both skills and conceptual development.

**COMMISSIONER DRISCOLL**: Is Advance College working with the Lynch?

**MS. SCANLON**: Yes. Another advantage is the instructional approaches that are a part of the program match the kind of instruction that is most effective with students who are English language learners.

**CHAIRMAN PEYSER:** I would only raise a caution. I don't pretend to be an expert in effective mathematics programs, but I will tell you that in the adoption of the curriculum frameworks, there was a lot of discussion around some content issues that may be underrepresented in Connected Mathematics that are now in the frameworks. Over time, the MCAS will reflect more fully the current frameworks. But there are certain content areas of mathematics that I think are either lightly covered or not covered at all in Connected Mathematics at the appropriate grade levels. I think you need to take a really strong look at that. I think things like fractions, decimals, percents as an example; I think algebra also up to the 8th grade. These are issues you need to take a look at in light of the existing frameworks. Again, I don't want to tell you that I know Connected Mathematics and I think it's no good. I'm just telling you there may be some real alignment issues with Connected Mathematics and the existing framework. I believe they are capable of being overcome by filling in the appropriate content areas, but it's going to take some conscious effort on your part to

understand where the disconnects may be. I just want to make sure that that's on your radar screen because it could be that you get into this and find that your mathematics performance on MCAS in particular is not improving at the rate you would have expected. It may be because there's some gaps between Connected Mathematics and the existing framework.

**MR. McDONNELL:** I'd like to respond. I happen to agree with you, there are certain issues of basic mathematical procedures and processes that are given to students, and one of the activities Mrs. Scanlon is doing is actually looking at that alignment to make sure those things are covered so you don't end up in that problem also. But that's a very good point.

**COMMISSIONER DRISCOLL:** Would it be helpful for the Board members if we came back with something in a more simplified form?

**DR. SCHAEFER:** I was going to suggest, and I just throw this out to you, we should limit the report to five pages. I think that when you are limited to that number of pages, it really forces you to focus on what the issues are, to present it clearly, and not to get lost in a lot of what may be secondary issues.

**MS. CRUTCHFIELD:** A clear example in those five pages would be one of the things I heard you say, there was a turnover of 40 percent of your teachers. Something like that.

**COMMISSIONER DRISCOLL**: Some not voluntarily.

**MS. GODEK:** 40 percent, but some of them --

**MS. CRUTCHFIELD:** Understood, but that shows an absolute root cause of something.

**MR. BAKER:** Actually, I think the 40 percent turnover was in response to this.

**MS. GODEK:** Response on our part. Some were involuntary.

**MS. CRUTCHFIELD**: Fine, I get it, but I want the framework. That's a major issue, a major organizational piece of information.

**DR. THERNSTROM:** You'd want to know what turnover was in previous years, though.

**MS. CRUTCHFIELD:** I'd want to know what it was, I'd want to know why, and I would want to know how it's better now that potentially those 40 percent are gone.

**CHAIRMAN PEYSER**: I agree with what's been said here. I would go back to what Charlie said you need: a clear presentation of the data not only in its aggregate form, but in its disaggregated form, particularly around a lot of the dimensions that he suggested in terms of trying to ferret out what the principal components of the problem are. Also include an analysis of why those problems exist and what can be done, and what few changes can be made. I don't know if it's important that it’s five pages but that is the right message.

**DR. SCHAEFER:** What we are talking about is a template that they should have this kind of thing in it.

**CHAIRMAN PEYSER:** We're going through this process for the first time ourselves so we need to refine it and understand it a little better as we go along, so we are asking people to deliver what we can use and what, in turn, can be useful for them.

**MR. McDONNELL:** Will we be provided a template?

**COMMISSIONER DRISCOLL:** That's my job.

**DR. THERNSTROM:** And the point extends to the improvement plan goals and objectives. You've got an awful lot of rhetoric here, "every student will experience" and so on. It needs to be simpler.

**CHAIRMAN PEYSER:** More concrete.

**MR. BAKER:** Furthermore, if you have turned over 40 percent of your faculty because you thought that was a big part of your problem, then from my point of view you've already achieved your first goal, which was you needed to do something about your faculty.

**MS. CRUTCHFIELD**: I agree.

**CHAIRMAN PEYSER:** Thank you very much for coming, you're excused. This will be, I believe, back on the agenda in January. We'll try to take a vote on actually approving the plan for the accountability process.

**COMMISSIONER DRISCOLL**: As Holyoke leaves and Lawrence comes forward, I want to make sure that Board members know, because it's not a small item, that this is a difficult process for the schools, and I have to say that both school districts, superintendents, principals and faculty, have been extremely cooperative. I want to make that point. They are doing everything they can to try to work with us, we are trying to do everything we can to be helpful. So that's a good beginning and I think we've got to get some of these processes down. I would agree with the Board.

**CHAIRMAN PEYSER:** Let’s move on to the Arlington School. Welcome and welcome back. So which five pages should we take out of this?

**MR. LABOY:** Let me introduce acting principal Beth Qualter from the Arlington School and head of the middle school, Mike Sabin.

**CHAIRMAN PEYSER**: Would anyone like to start? We'll try not to be redundant.

**MR. LABOY:** I'd like to make some introductory comments and, as the new superintendent at the helm of the system, talk a little bit about the snapshot from the district view, and then hopefully the leaders of the school can be engaged in any conversations that you may have. Is that good?

**CHAIRMAN PEYSER:** Yes, please.

**MR. LABOY**: I arrived in Lawrence this August and we have had action, work, and conversations around the Arlington School, and just for my own benefit. What called the attention of the state to the concerns of the Arlington School were the 8th grade MCAS scores in both Failing and Needs Improvement at the schoolhouse. I started to meet with the staff because, as you know, our concern, and as the superintendent, my concern, was not just the Arlington but a whole systemic look at the school and where we are at and what we gleaned out of Arlington as much where we were as a school district.

First, the incoherence of the curriculum across the grades. We found, as a matter of fact, it was not a coherent curriculum across the grades from K to 8. To be honest, folks had embraced different instructional models from literacy, guided reading to direct instruction, SRA, to other models in the school, so one of the things that we gleaned that was a real challenge was the need for us to be coherent in the curriculum. So that stemmed as a real problem. The other piece was around governance. Like many challenges that are endemic to urban school districts, we looked at the staff issue. With a staff where many more than 50 percent of them were new on the job, 44 percent of them have been in the building more than two years. So that also has become a challenge for us -- stabilizing the leadership. Upon my arrival there I felt as a superintendent that I needed to try to find a way to have a leader at the school that would have a clear vision of where we need to go, the intensity of the work we needed to do, the basics we needed to have and the urgency that myself as superintendent and every school leader must have in an urban school system that currently right now is in troubled waters for us as a whole.

So I appointed acting principal Beth Qualter. She is an experienced educator, a seasoned educator with experience in Lawrence Public Schools who was serving as assistant principal of another school in the district. Along with that we

also have Mike Sabin who has become the middle school person who is assigned to be the assistant principal in charge of the middle school. The school is a very large school, so we currently are in the midst of an intense conversation around instructional reform, comprehensive across the system, universal practices, a curriculum that is coherent, and assessment that is aligned to those practices and strategies and interventions. So Mr. Sabin has been heading the middle school and our conversations have not only looked around instructional reform, but organizational change in terms of how do we make a school that's 1,200 children currently, a little less than that registered, how do we make it smaller so in fact it becomes manageable? The issue of preparing teachers, professional development, shaping professional development, has been a challenge for us.

Young teachers, we have a cadre of more than 60 new people in the building. So we have worked on the adults of the building. I think we start with the adults and we try to do the kind of work that helps us build a capacity with adults. We believe we can get the student outcome because if you build that capacity, kids will perform, and if you give the adults some kind of knowledge and support, that will impact student outcome. Yes, the Arlington School is a large school in the poorest neighborhood of Lawrence, so you can imagine that being the poorest community in the Commonwealth and then being in the midst of the poorest neighborhood in that community is quite a challenge for us. It's not an excuse, it's a challenge. The children are in fact English-language learners, 30 percent of them are, although children who speak another language other than English at home are close to 80 percent of those kids. So although the Arlington School has a large number of Spanish-speaking children, not all of them are entitled to a LAS scale, the language assessment scale, for bilingual services. The population across the grades is about 220 kids that are in bilingual programs.

The other piece is parent involvement. Parents didn't feel part of the community. For many reasons, as you know, we as a school system in the past five years have had some rough waters and we've had a number of leadership changes at the local schoolhouse as well. So we found that we could not engage parents, and we as a school system and we as a community were not owning up to our part of the stability, being part of a community, of a conversation, of a collaboration, making them stakeholders. So they were kind of gun shy to come into the schoolhouse. And for them also, the school might have failed them. So there was a sense of maybe we don't need to be that engaged because if the system failed us, they might fail our kids as well. So it's been a real challenge for us to engage them. We have been able to organize a formal parent organization, over 400 parents participated, so it is going to have --the principal is meeting monthly with the parents. Parents are an intricate part of this plan and I want to reiterate and echo the concerns that this is just a plan in the making. It's a direction, it's a way for us to put our compass in the right direction. It's not complete and we recognize we certainly have a ways to go with it. But parents have been able to embrace the process and become really very knowledgeable and very clear about their roles. And so we now have co-presidents of a formal PTO organization in the building. I have met as a superintendent with the staff more than once, two or three times, the panel will keep on going, and this is where we're going at this point in time. If you have anything specific to curriculum, I will let the school leaders do that. Are there any questions?

**CHAIRMAN PEYSER:** Let me preface it by saying some of the comments you heard in response to the previous panel apply; we don't need to go over them again. I do think the general instruction, I suppose -- again, this is for the Department as well as for the folks from the school and the district -- is to try to be as clear and specific as possible on what the problem is and what its source and causes are. Then be very focused on what the few vital solutions are to getting those problems addressed. Are there any specific questions that Board members have about the particular plan for any of the panel members?

**DR. THERNSTROM:** I actually have a general question that this whole discussion raises. We've all been saying it would be nice to pinpoint in these schools precisely what has gone particularly wrong in this school as opposed to other schools that are doing better. I wonder, with all your experience, which has been considerable, are you tempted to answer to us, “Look, you think you can do that; it's actually a question that's extremely hard to answer, the answer is very elusive?” Or do you think in fact that looking very hard at one school versus another, you can say, “Look, in this school what's wrong is A, B, C, and at another school with the same demographics, you know, you won't find that.” Maybe we are asking for something, in other words, that is extremely difficult for you to provide.

**MR. LABOY:** Let me say to you that I come from a world where there's a tremendous amount of diversity from community to community. What kind of gleans to me some interesting thought about how we do work in Lawrence is wherever you go across that community, it's all the same. Kids, basically 85 percent of the school system, are Hispanic

children, wherever you go. So we are just one big school district with kids that look the same in every school, although there are very particular needs. So the question is, what are we going to do universally and comprehensively across the system? Because the truth of the matter is, we have put in on-grade assessment. Upon my arrival we took out some of the Math 7's, some of the CBM assessments, and we have looked at it. So we are looking on grade across the district and our best school don't glean the best amount of positive results. I mean, when you have the best school performing at the 40th percentile on and above grade, we have a systemic problem.

So we have to look at it in terms of systemic reform. We are currently intensely involved in a conversation around adopting a model that will talk about universal practices or cohering curriculum. But it's on the same page around professional development and -- I'm just going to be kind and say to you that I like the word mobility rate, because I find transient rate to be folks that are moving around without direction; kids with mobility have direction, so I will use mobility -- a mobility rate that moves in and out of the system. So the question is, what are we going to do from classroom to classroom, school to school, to stabilize that? So that's why I think a comprehensive look at 1) coherent curriculum; 2) universal practices; 3) ongoing assessment, on-grade assessment, because you say a two-scaled score in MCAS for the average person. What does that mean? For us we'd rather look on grade, where we are on grade and how we move our kids further. So we are having those conversations. I see that as challenges across the system in Lawrence Public Schools.

**COMMISSIONER DRISCOLL:** I understand that Lawrence has had five superintendents in five years and three principals at the Arlington School in the last three years. What Wilfredo just talked about can be boiled down to what you're talking about. One thing that is clear, there have been all these fits and starts over the last couple of years, so no matter what school you went into when you'd ask, “How are you doing?” You’d find they were doing all right, they were adapting this, adopting that, they had Success for All, they had this, and they had that. So I think to boil down what he just said, Abby, is to say there's just not any coherence, there's no semblance of order. So the first thing has to be a semblance of order.

**DR. THERNSTROM:** He said it's districtwide.

**COMMISSIONER DRISCOLL:** Of course, but it would help the Arlington School. When we talk about Arlington School, first thing is what are they doing at the school level, and if it fits the district, fine. Because, obviously, in these schools we are finding the district is a major part of this. The second issue is that it’s a large school. By the way, it's a relatively new school, particularly for Lawrence. That's a good thing. But it’s built on a postage stamp; it's a high-rise with a leaky roof and, sometimes, flooded floors.

**DR. SCHAEFER:** How old is the school?

**MR. LABOY:** 15 years.

**COMMISSIONER DRISCOLL:** But it's a large school. It's 1,200 kids. I think at one time maybe 1,400 kids.

**MS. CRUTCHFIELD**: K-8?

**MR. LABOY:** Yes.

**COMMISSIONER DRISCOLL:** That's the second issue-- size. So to answer your question in identifying things is we'll have this K-8 component which means that we have a middle school component, if you will. Or you can do it as they did before, which is self-contained classes K-8. That's the second thing that jumps out at you. And the third thing is the sheer numbers; it's like walking into John Hancock. It's just unbelievable. So the question is how do you break it down. But the question is also how do you subdivide both at the middle school level for instructional purposes and also for the school itself, to have a school within a school so kids feel somewhat connected. We have had those conversations, so I'm asking the Board with this plan set on page 1- the first issue to get clear curriculum goals per grade level, an assessment to match, and then break it down -- would that be far more helpful than this?

**DR. THERNSTROM**: Yes.

**MR. BAKER:** It would only be more helpful if there were a page in front of it that says, "Based on our analysis, these are the four things we think are contributing to a significant part of our problem, and the reverse actually represents opportunity, therefore, this is what we're going to do." At the end of the day, it's more important to me that you folks and the Department focus on a few things that people believe will solve the problem than give me or the Board something that's very comprehensive and very broad but may or may not be on point with what the practical reality would suggest needs to happen.

**CHAIRMAN PEYSER:** I think this is the critical issue: People jump to conclusions about what the solution is because it's something that they either know or something that feels right or something that the last person they spoke with suggested or someone in authority suggested. And none of those things have any connection to what the actual problem is. And so the first priority is to be clear about what the problem is, and not just in some macro sense but in some very specific sense. Then say, "Given what we know about the causes of this problem, what are the solutions?" And if then the solution is creating smaller learning communities, which has sort of a nice ring to it, and probably makes a lot of sense generically, then yes. But that may not be the direct solution to the particular problem.

**COMMISSIONER DRISCOLL**: I get it. In fact, you started with these three things, which I thought was pretty good.

**MR. LABOY:** I think there is an instructional challenge happening, and that is the issue of what do we do about a curriculum that is effective. So that's one look. And I think we are in the midst, we have gone in, there's customization around leaders and frameworks, we have aligned the state frameworks to customization of how we're going to deliver. I think the problem with standards, and we are working on that, is you develop content standards but you don't deliver instructional delivery standards. So how are you going to get it done? We say, "This is the content, this is the standard." The question is: How are we going to do it and how are we going to make it happen for every kid, and how are we going to evaluate that it did? So we are having some good work and good planning around that. The other piece is organizational reform. The piece that I speak to from Lawrence, schools are much too large K-8, so we are looking right now at starting a conversation in January for September 2001 across the district on schools within schools because we think smaller can be better. Smaller is not better, but it may have the effect that smaller is better by the mere fact that we can work with what is manageable. If we have it for numbers' sake, it's not going to work. If we do the kind of programs that make sense for kids, we make smaller learning communities for kids. We look at early childhood centers K-8, more building, much of the generosity and help of you folks here at the Board. So we are looking at things that will help us not only systemically, I think at Arlington, but I go by the grace of God. Arlington is where it's at today but I think all our schools are right behind. We need to do the kind of work that will not let us get there but get ahead.

**CHAIRMAN PEYSER:** I have a couple of discrete comments in closing. In looking at the professional development section, there's no mention of enhancing subject mastery on the part of teachers. It was all on the pedagogical side. It raised a red flag for me about whether we were jumping to conclusions, again. Is the issue entirely teaching methods as opposed to subject mastery of the teachers themselves? Similarly, I didn't see anything about extended learning time. Again, I'm not trying to jump to a conclusion, but given the comprehensiveness of this document, I was surprised not to see it. Maybe I missed it, but I didn't see discussion about after-school programs or summer school programs or the development of individual student remediation or success plans. So those jumped out at me.

I would also just reiterate the comments I made earlier about Connected Math, which I think is the same comment with Math Their Way. I think there are some issues around alignment with the frameworks and consistency with the high expectations on the content and skills side of mathematics. The other thing I'd mention is that I noted some, perhaps, diplomatic language around the two-way bilingual components to the program. It sounds as if, and correct me if I am wrong, that's being reevaluated, at this point, as to whether there ought to be a two-way bilingual program, and if so, what it's ratio is.

**MR. LABOY:** We currently have a task force at the district level of parents, educators, specialists, and community leaders around the whole issue of bilingual education-- what it would look like, what would our policy look like. I'm profoundly concerned that good instruction has to be good instruction for all, and we are looking at those issues right now. So there will be a policy early in the spring as to what the Lawrence Public Schools ought to embrace around a real model of English language learning so we have a chance to look at content. We have similar concerns about

alignments around the content specifically in math and science as well, so we are looking at what we are currently using. I'm the new superintendent on the block so I'm kind of, not to say that there has not been good work in the past, but we are looking at that and so we appreciate those snapshots.

**CHAIRMAN PEYSER**: Thank you all very much. I appreciate it. Unless I'm missing something, we have gone through the agenda. Is there something we have missed?

**MS. CRUTCHFIELD:** Move to adjourn.

**MR. BAKER:** Second.

**CHAIRMAN PEYSER:** We are adjourned.