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Invited Testimony Prepared for the Ohio Senate Education Committee

Why Ohio Needs World-Class Content Standards for K-12, and
How To Get There

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Dear Chairman Cates, Ranking Member Sawyer, and members of the Senate Education Committee:

I appreciate the opportunity to speak with you today about state standards and aligned accountability systems. You face a huge challenge as you think about ways to improve Ohio's academic standards. The standards you have today are mediocre at best. The governor's budget seeks to make drastic changes in them. Many thoughtful people are concerned that the direction of these changes would make Ohio's K-12 academic standards worse, not better. I am here today to recommend resources and procedures that will help you to get world-class academic standards. But I would like to tell you first how the state that is widely regarded as having the best academic standards in the country got them.

The Position and the Charge: I have spent over a decade evaluating the quality of state standards across the country and advising many states on how to create academically strong standards. My expertise in this area is based on my work as Senior Associate Commissioner at the Massachusetts Department of Education from 1999-2003. In that role, I was in charge of complete revisions of all of the Bay State's preK-12 standards, teacher and administrator licensing regulations, teacher tests, and professional development criteria. A line item in the state budget for the specific position I held had been funded by a chiefly Democratic State Legislature in January 1999 at the request of then Governor William Weld, a Republican. I was hired for the position by the Commissioner of Education, David

Driscoll, a Democrat, in March, a choice that was enthusiastically supported by the Chair of the Board of Education, James Peyser, a Republican.

Thus, I worked in an authentic bipartisan environment. I was expected to enhance the academic rigor of all of the Department's documents for preK-12 that had been developed to implement the education reform measures enacted and funded by the Massachusetts legislature in the 1990s.

The legal framework within which I worked was the Massachusetts Education Reform Act of 1993, a comprehensive piece of progressive legislation that linked a clear measure of accountability to state funding in every component of preK-12 and teacher education. Its overall goal was to increase both preK-12 student academic achievement and the academic quality of the state's preK-12 teaching force. My goal was to improve the state's major curriculum frameworks, its regulations for licensing teachers and administrators and for approving their preparation programs, and the teacher tests required for licensure, drawing on the soundest scholarship or research evidence I could find in every subject area and in the field of education. How to recognize sound scholarship and research was exactly what I had been trained for in my graduate work at Harvard's Graduate School of Education in the 1970s.

The first components the Department needed to get right to increase student achievement and teacher quality were clearly the curriculum frameworks in each subject area: mathematics, English, reading, science, history, geography, economics, civic education, foreign languages, and the arts. Why are curriculum frameworks with strong academic standards the beginning and the end? Because they heavily shape (or should) the academic components of all the other documents a state department of education develops for preK-12. These include student assessments in basic subjects, guidelines for state-funded programs for preschools, English Language Learners, and instructional technology, and regulations for teacher and administrator preparation programs, licensure tests, and professional development. State standards also influence directly the content of classroom curricula and course configurations, even though departments of education cannot mandate specific curricula and instructional strategies, in theory the province of local school boards.

What I Found: My first step was to review critically the Department's existing curriculum frameworks, guided by authoritative discipline-based commentary on what the school curriculum should contain and how its content should be sequenced (especially in mathematics and science), as well as by whatever

credible educational research I could locate. Each subject area suffered from a number of deficiencies. Although some were subject-specific, generic deficiencies were more serious and afflict most states' standards, regardless of subject. I highlight here the three most serious problems in the original drafts or frameworks I examined.

*Statements on skills, processes, and strategies cluttered the documents. Educators on the original standards development committees had spent most of their time arguing about, and developing prescriptions for, how teachers should teach or what strategies and skills student should learn, not the specific intellectual content to be taught from grade to grade. As a result, much of what was in the original documents or drafts was unassessable.

*Academic experts in the disciplines had played only a minor role in shaping the content standards, and what passed for a content standard was often vague or inaccurate. In addition, many content standards were organized and sequenced incoherently from a discipline-based perspective.

*As a result of poorly designed or vague standards, many of which were not actually standards, essential intellectual content was often lacking or hard to see. In English/reading, it was mostly invisible because of the failure to specify an increasingly demanding sequence of significant texts and/or authors to help teachers and schools construct an authentic English curriculum; in mathematics, essential topics were spread over too many grades and diluted by less important topics; in science, authentic content was diluted by non-content issues; and in history and the social sciences, content was expressed at too high a level of generality, leaving teachers in the dark as to what specific events, people, trends, places, and times should be taught within an appropriate narrative framework in history, geography, economics, U.S. government, and civic education.

My staff and I concentrated on the six following objectives in revising the state's original standards:

- *To make disciplinary content the central focus in each subject area
- *To specify the disciplinary content to be taught by teachers in each subject area, grade by grade, or course by course in high school mathematics, science, or history
- *To craft intelligible and assessable standards in a coherent sequence
- *To organize the high school standards for each subject in ways that reflected the normal disciplinary training of teachers of that subject

*To make clear that acceptable teaching/learning strategies included teacher-directed as well as student-directed strategies

*To include as many examples as possible showing how a standard might be implemented in a classroom lesson so that teachers could see exactly what the standard meant and how critical thinking, problem solving, and other skills were naturally intertwined with the content being taught and developable when teaching to an intellectual objective

What I Did: What was done to ensure a set of strong and coherent academic standards in each subject?

First, we eliminated all so-called standards above the primary grades (preK-2) focusing chiefly on skills and learning processes or strategies. They were and are not standards chiefly because they are generic in nature, content-free (or not sufficiently content-specific), and unassessable in isolation. That is why attempts to add a layer of explicit skills, processes, or strategies to classroom instruction and state assessments will point teachers in the wrong direction and retard student acquisition of the knowledge base needed for their appropriate use. Basic academic content is both foundational to critical thinking, problem solving, and effective oral or written communication as well as inseparably intertwined with the development of these skills. These skills can be effectively deployed only after students have acquired the specific content that guides the choice of a specific skill to use in a specific context and how it is to be used.

Second, we arranged for academic experts in each area to work directly on the revised standards or to review them. Teachers were regularly consulted on developmental appropriateness, teaching load (number of objectives at a grade level), and grade level placement. But specific content in mathematics, science, history, geography, economics, and US and comparative government was determined chiefly by mathematicians, scientists, economists, historians, geographers, and political scientists, with assistance from experienced and well-trained high school teachers in English and history, especially.

Third, we re-organized the way in which middle and/or high school standards were presented, so that schools could see what should be covered in subject-specific courses in US or world history, science, and mathematics.

Empirical Results: Let's get quickly to the proof of the pudding. On the 2007 NAEP tests (commonly referred to as the Nation's Report Card), Massachusetts students scored first in grades 4 and 8 in

mathematics and in grade 4 in reading, and tied for first in grade 8 in reading. The Bay State's low-income students also made stunning gains. When the scores of low-income students were compared *with the scores of low-income students in the other states*, it turns out that the Bay State's low-income students are tied for first place in mathematics in grades 4 and 8 and in reading in grade 4. And in grade 8 in reading, they are tied for second place. These dramatic gains by student subgroups also turn up in scores on our state tests. For example, in 2001, when the high school graduation requirement kicked in, only about 15% of black and Latino tenth graders scored at the proficient/advanced levels on the state's grade 10 mathematics test. In 2007, the percentage of black and Latino tenth graders who are proficient/advanced was about 45%, a three-fold increase.

Results on international tests in mathematics and science given in 2007 were even more stunning. Massachusetts 4th graders ranked second worldwide in science achievement and tied for third in mathematics; its 8th graders tied for first in science and ranked sixth in mathematics. The Bay State also leads the nation today in the percent of its public high school students taking and passing Advanced Placement courses with a 3 or more--almost 21 percent--a larger percentage than most other states in the nation and well above the national average of 15.2 percent.

These impressive results are due to more than world-class standards, however. Several other factors contributed to the so-called Massachusetts Miracle. The academic knowledge base for teaching to the state's strong content standards in mathematics, science, English language arts and reading, and history/social science was fully embedded in the state's revised teacher licensing regulations, teacher licensure tests, and criteria for state-funded professional development. The revised or new subject area licensure tests for elementary teachers, in particular, weighted mathematics and science more heavily than before, and we eliminated all pedagogical items from all subject area tests. In addition, we mandated a dedicated test of research-based reading instructional knowledge for all prospective early childhood, elementary, and special education teachers. All these changes in our licensure regulations and tests have led to stronger preparation programs and an academically stronger teacher corps in K-8 since 2002. But, there is one more factor that is obvious to everyone in the Bay State--the state's generally acknowledged high quality student assessments, which are based clearly on our strong content standards. Without strong content standards as the central and overarching component of systematic educational reform, no "miracle" would ever have occurred.

Resources for 21st Century Content: Let me first suggest some key resources (all public documents) Ohio should draw on to ensure 21st century content in world-class content standards. I will indicate key documents or reports in the four major subjects in the school curriculum.

For English or reading, the best resources to draw on are the contents, examples, and reading lists in the curriculum frameworks for Massachusetts (2001), California, and Indiana. Texas's 2008 standards and their organization, as well as the English and Communication standards in Achieve's American Diploma Project and the examples for its backmapped benchmarks, can also be very useful .

For mathematics standards, there are no better resources than the standards for California, Singapore, Minnesota, Indiana, and Massachusetts. The recommendations in the National Mathematics Advisory Panel's final report of 2008 should be followed as much as possible, as should the recommendations in the report by the Panel's task group on Conceptual Knowledge and Skills. Curriculum Focal Points, issued by the National Council of Teachers of Mathematics in 2006, should also be consulted.

For science standards, the best resources are the 2006 Massachusetts science standards, and those in California, New York, Indiana, and New Mexico. And for history and the social sciences, the best documents for specific details are California's standards, the 2003 Massachusetts history and social science standards, and the National Civic Standards issued by the Center for Civic Education in California.

Procedures for Developing Content Standards: Let me now recommend a few generic procedures that can help ensure that strong content standards emerge from a revision of Ohio's K-12 content standards.

*First, the state superintendent and her team should prepare a **critical review** of the content standards in each subject, referring to the most highly regarded standards documents in the subject (national and international), as well as research reports. This review should point out the major features that the best documents share and differ on, as well as the strengths and weaknesses of the state's documents. Feedback on the state's document should also be solicited from the state's teachers, parents, and others by means of an extensive online survey. The review should be sent to the State Board of Education, the legislature, and the Governor's office detailing exactly what general changes are recommended to strengthen current state documents, together with a rationale for the recommendations based squarely on the documents and reports that have been reviewed, as well as a synthesis of the solicited feedback.

*After approval or amendment by all relevant powers that be, the state superintendent should designate several people to be in charge of the basic drafting process. In each subject area, a content expert or two (with a Ph.D. in the subject) should work with a high school chair/teacher and a K-8 curriculum specialist to draw up the **first draft of the standards**, in sections over a span of several grade levels. One staffer should be in charge physically of the draft document at all times. A first draft cannot and should not be written up by a group of people at a meeting, or staffers without Ph.D. expertise.

*The state superintendent should establish a **small review committee of about 15 teachers** for each document. District superintendents should be asked to recommend a well-regarded, experienced elementary, middle, or secondary teacher of that subject. In other words, 15 school districts should be represented, with equal numbers at each level, on each committee. As each section of a document is drafted, the relevant committee should review them together to assure appropriateness of grade level placement and teaching load, and to raise or address questions about content and curricular sequence.

*The revised draft should go for **review by academic experts** (people with Ph.D.s) and relevant groups (e.g., in mathematics, the Mathematical Association of America), who are asked to send back comments with their names attached to assure responsible feedback. All feedback should be posted on the ODE website. Changes to the document to address reviewer comments should be based on agreement by the drafting group and approval by the state superintendent.

*The draft of the standards that goes out for **public comment** should also be sent to all the academic experts again. After the public comment period, the state superintendent and her staff should provide the State Board of Education, the legislature, and the governor with a summary of the feedback and a **rationale for the final shape of a the revised document**.

Thank you Chairman Cates, Ranking Member Sawyer, and members of the Senate Education Committee for this opportunity to speak with you today. I look forward to your questions and comments.