

UTAH STATE OFFICE OF EDUCATION

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Dear Senators and Representatives:

The Utah State Board of Education takes seriously the concerns raised in the letter you recently received from Senators Howard Stephenson and Margaret Dayton and Representative Greg Hughes. Further, we encourage all legislators with questions about curriculum or matters of school governance to discuss their concerns with board members. We are happy to work with you on these matters.

Since Senators Stephenson and Dayton and Representative Hughes addressed their concerns about Utah's recently approved mathematics curriculum to the full Legislature, we will offer our answer to the full body as well. The Utah State Board of Education and State Superintendent of Public Instruction Patti Harrington believe the new math standards are, in fact, the world class standards that we all want. These standards offer the rigor needed in the classroom and will hold students and teachers accountable for learning. They also offer flexibility to teachers to use their classroom time to the students' best advantage. They are not held to only dealing with practice and drill lessons nor to more conceptual problem solving exercises. Either or both can be used to the students' best advantage.

With that said, we would like to specifically respond to each of the senators' and representative's concerns:

The mathematics standards were not rushed through "without delay." The standards were approved only after months of deliberation and with input from a steering committee headed by Russell Thompson, Mathematics Department Chair at Utah State University, which included mathematicians, mathematics educators, and district mathematics supervisors. Professors from Utah State University, Brigham Young University, Southern Utah University, Westminster College, and the University of Utah participated in the committee. The written standards were then vetted by an external group comprised of Hung-Hsi Wu, a professor of mathematics at the University of California at Berkeley (and sometime collaborator with R. James Milgram, emeritus mathematics professor at Stanford), Janie Schielack, a professor of mathematics at Texas A&M University, and Deanna Winn, a former associate commissioner for academic affairs at the Utah System of Higher Education.

Meetings seeking input from parents and teachers were held throughout the state and all concerns were addressed. We reject the notion that "world class math standards" are determined solely by R. James Milgram or solely by the 2003 math test results of eighth graders in Singapore. From what we can determine from Milgram's letter, he does not object to Utah's standards as much as he objects to how those standards should be taught. Utah's teachers have the professional classroom control to determine the best method to use in teaching their classes.

As to the notion that Singapore's standards are the touchstone that should be used to judge all the world's math standards, we turn to Tharman Shanmugaratnam, Singapore's Minister of Education. In the January 9, 2006 edition of *Newsweek*, he was interviewed by journalist Fareed Zakaria. The article acknowledges that Singapore indeed ranked first in the world in the 2003 TIMMS (Trends in International Mathematics and Science Study). But Zakaria asked why Singapore continues to produce so few top-ranked scientists, entrepreneurs, inventors, business executives or academics. The reply: "We both have meritocracies. Yours is a talent meritocracy, ours is an exam meritocracy. There are some parts of the intellect that we are not able to test well – like creativity, curiosity, a sense of adventure, ambition. Most of all, America has a culture of learning that challenges conventional wisdom, even if it means challenging authority."

Singapore has yet to produce a single Nobel Prize laureate. Denmark and Norway, countries of roughly similar size, have produced 14 and 10 respectively. By the way, the United States scored a 504 in the 2003 TIMMS test, well above the international average of 466. As noted earlier, Singapore led the world with a score of 605. Norway, the country with 10 more Nobel Laureates than Singapore, scored 461.

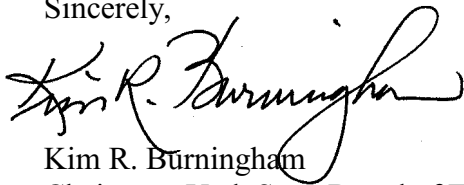
We know Dr. Milgram has been critical of U.S. mathematics teaching methods. We understand this to be part of a larger "math wars" argument raging over the best method to teach mathematics: reform math or basic math.

Please understand that our new curricula standards are neither reform math nor basic math. While the standards do require student understanding of mathematics, they also emphasize mathematics fluency with the basics: adding, subtracting, multiplying and dividing. We encourage legislators to involve themselves in the debate, but not in just one side of the debate.

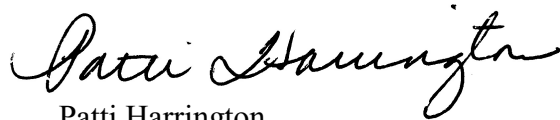
Our new math standards will not leave our students behind. This is a curriculum that will prepare Utah's best to compete with the best in the world in scientific, technological and engineering innovation. It will also equip all Utah students with the math skills needed for tomorrow's world.

We and other board members always welcome discussions of public education issues with you and your fellow legislators. Please feel free to contact any of us at any time.

Sincerely,



Kim R. Burningham
Chairman, Utah State Board of Education



Patti Harrington
State Superintendent of Public Instruction