

**Subject: Please Reject Proposed Math Standards**

Date: Thu, 02 Aug 2007 15:47:57 -0600

From: Howard Stephenson

Dear Chair Burningham, Superintendent Harrington and members of the State School Board:

Feedback from constituents regarding the new state math standards has prompted us to seek outside opinions concerning the newly produced standards. Based on the information we have received, we are recommending that the Board not approve the proposed new standards because they are not the "world class standards" the committee was charged with creating.

It is our understanding that the committee produced standards prior to an external review that did not contain such elementary concepts as exponents and logarithms in upper grade classes. Fortunately, this has been corrected, but it speaks to the level of rigor and comprehensiveness the committee was seeking. It is also our understanding that eleven of the sixteen members of the committee had just last year signed a document which asserted that Utah didn't need to revise its standards even though the Fordham Foundation has given Utah a "D" grade and the U.S. Chamber of Commerce a "C" grade for our standards.

It is with these concerns in mind that we have sought direct input concerning the proposed standards from Dr. James Milgram who previously appeared before the education sub-committee during the interim meeting in October 2006.

The legislature now has obtained an independent review from Dr. Milgram concerning the newly formed standards. As you can see from Dr. Milgram's letter (shown below) and his analysis (attached PDF

document), the proposed standards are greatly lacking. We have also received news from Dr. Wu, the external reviewer engaged by the committee, that as he reviewed the final copy of the standards, his suggestions and critiques were virtually ignored throughout the entirety of the document. The standards are not "world class" as we were assured they would be.

We encourage the members of the state school board reject the standards at your August 3<sup>rd</sup> meeting. We feel so strongly about Utah having world class standards that if the standards are adopted by the Board in their present form, we will seek to convince the legislature to set the standards statutorily with the advice of Dr. Milgram and Dr. Wu.

In conjunction with Dr. Milgram's professional career in writing standards and evaluating world class education systems, we would seek to have the legislature also request Dr. Milgram to provide policy direction on the following items:

- 1) Certification requirements for math teachers including what constitutes math education for teachers
- 2) Professional development guidelines for math teachers
- 3) Proper testing for teachers
- 4) Proper end of level testing for K-12 students in math and guidelines in constructing the tests
- 5) What should a proper math class look like for K-12 and does the block schedule work with world class mathematics?

6) Recommendations on how to handle curricula for use in classrooms and what type of coursework will best meet the standards

7) Any other changes he feels would be beneficial to world class education

It is our hope that we can avoid legislation regarding these standards. Therefore, we highly recommend the state board improve the math standards, so that the legislature can avoid the need to act.

We appreciate this opportunity for our respective elected bodies to work together to achieve the best possible education for the students of our state.

Sincerely,

Senator Howard Stephenson  
Co-Chair, Education Interim Committee and  
Public Education Appropriations Committee

Senator Margaret Dayton  
Asst. Chair, Education Interim Committee and  
Chair of Senate Education Standing Committee

Representative Greg Hughes  
Co-Chair, Education Interim Committee and  
Chair of House Education Standing Committee

----- Original Message -----

Subject: Re: Help with Utah's Math Standards  
Date: Tue, 31 Jul 2007 09:55:54 -0700 (PDT)  
From: Jim Milgram  
To: Howard Stephenson  
CC: Margaret Dayton, Greg Hughes

Dear Senators Stephenson and Dayton, and  
Representative Hughes,

I have attached my report on the Utah Mathematics Standards. They are weak but barely acceptable in Algebra I, Geometry, Intermediate Algebra, which contains far too many topics to be effectively treated, and pre-calculus. However, they are among the worst proposed state standards that I have ever seen in grades K - 7!

They are so bad that there is literally no way they can simply be corrected. Indeed, based on some of Prof. Wu's comments in his review of the previous version, they made considerable changes in the seventh grade standards. While they managed to address some of Prof. Wu's criticisms, they managed to introduce new and even more serious errors in the process.

I am sorry that this review is later than I expected. I had finished a review last week, focusing on the seventh grade standards. However, when I made a final check, I found that the standards I had been using had been replaced on the net. So I had to redo the review, and in the process, I felt I should also include some discussion of the issues with the sixth grade standards.

Yours,

R. James Milgram

On Mon, 9 Jul 2007, Jim Milgram wrote:

>

> Dear Senators Stephenson and Dayton, and  
> Representative Hughes,  
>  
> I am honored that you have asked me to do this,  
> but, as you say, it is  
> a daunting task. So the first thing I did was to  
> check with a key colleague  
> to gauge the amount of help that would be  
> available to me  
> from top mathematicians in the country who are  
> also deeply concerned  
> with mathematics education and school  
> mathematics.  
>  
> Specifically, I have checked with Prof. H.-H. Wu  
> at Berkeley, and, though  
> his time is severely constrained he is willing to  
> help to the extent that he  
> can. I also have every reason to expect that  
> other top level mathematicians  
> such as Prof. Roger Howe at Yale and Prof. Dick  
> Askey at U. of Wisconsin will  
> be willing to help.  
>  
> With their aid I will be pleased to provide you  
> with standards that are  
> world class, aligned with the Singapore and  
> Japanese standards, and that  
> reflect the focused curriculum strongly suggested  
> by the new NCTM Focal  
> Points.  
>  
> We should also be able to provide you with  
> considerable guidance on what  
> sensible requirements for teacher certification  
> in mathematics should be  
> for teachers at the elementary level K - 3 and 4  
> - 5, at the middle school  
> level and at the high school level.  
>

> Your fifth request is probably beyond our abilities however. Once a  
> professor is granted tenure at a university or college, it is a very strong  
> tradition in academia that they are then free to teach in the manner they  
> deem best.  
>  
> Your sixth and seventh requests can probably best be accommodated by  
> giving you the names of the people who are most able to construct the kinds  
> of tests you need, and this is something we can do. Of course,  
> it is worth noting that there are two parts to test construction: first  
> there is collecting appropriate problems, and second, the test has to  
> be shown to be consistent and fair. Where mathematicians can help most  
> is in collecting appropriate problems.  
>  
> Likewise, we can recommend current curricula, but over the long term  
> it seems crucial that you involve local people like Prof. Wright, who  
> are sufficiently knowledgeable about the most important issues in  
> selecting programs that will facilitate student achievement in  
> the mathematics crucial to both their success and Utah's economic  
> health. Again, we can help with such recommendations.  
>  
> As to the first request, I should be able to get started with preparing  
> such a critique of the existing document very soon, but to do this

> I will need a copy of the proposed Utah math  
standards. I can download  
> it from the net if you can give me the URL.  
>  
> Yours,  
>  
> R. James Milgram