

THE NCTM STANDARDS: A WORLD CLASS MATH EDUCATION?

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Dear Fred and Nancy,

On April 13, I sent you the essay entitled, "The Study of Public School Math Education" with a brief note highly critical of the Department of Education. I have finally gotten around to explain why. I wrote that note right after I had finished reading the Third International Math and Science Study (TIMSS) reports on 8th and 12th grade math tests. It became clear to me for the first time that the NCTM Standards was officially endorsed by the Department of Education. I was stunned and dismayed! It's absurd for the Secretary to report that the U.S. is behind in math performance in comparison to Japan and other countries [1] and then adopt the NCTM Standards as the intended curriculum for the nation's math education! It will only put our math education further and further behind!

I didn't know "the NCTM" nor "the NCTM Standards" until I read the enclosed articles entitled, "What the NCTM Standards look like in One Classroom" and "How Teachers Are Implementing The NCTM Standards" in May of 1993 [2]. The Interactive Group Study Method promoted in those articles was nothing new to me because I had taught/trained lay leaders in using that very method for at least 10 years and know its strengths and weaknesses. But, to utilize that method in classroom math education was a *revolutionary* concept to me. Since you both are scientists and are familiar with that method, you will be able to evaluate the math education reform as delineated in those articles.

It's a puzzle to me how a nation could use its children as "*guinea pigs*" to try out "*un-tested*" theories again and again. For example, we implemented the "New Math" in the 1960's which ended in failure. In 1990, *a quarter century later*, Newsweek made this comment, "New Math was a well-intentioned, but in retrospect wrongheaded, attempt..." and J. Kevin Colligan, coordinator of math education reform at the time, called it "*an interesting experiment*," and then added, "*But maybe it's not what we ought to lay on every kid.*" [3]

History seems to be repeating itself. It's clear to me, and many others, that the concepts and the pedagogy which the NCTM promotes will be another ill-conceived experiment. We don't have to wait another quarter century to learn, as in the case of the New Math, that the NCTM's math education reform was a "well-intentioned, but in retrospect wrongheaded" attempt to reform the nation's math education because "it puts the cart before the horse" and "throw the baby out with bath water." The following is an example:

The NCTM has been promoting the use of the calculator starting from the 1st grade [4]. A survey of college students regarding their high school math education has revealed that it has been "wrongheaded" policy for a large number of students.* This is because the calculator has become their "crutch", not a tool, which short circuits their thinking/reasoning processes -- a cardinal doctrine of the NCTM reform recommendation [4].

In February of 1998, the Department of Education released a message from its Secretary entitled, "Riley *Urges* Students To Take Tougher Courses:..." [5] Maybe, the Secretary *should be urged* to personally study the NCTM Standards and reform pedagogy [6] before he commits the nation's children again, in a wholesale manner, to this so called "new vision" of math education reform which could very well turn out to be an "illusion" and ending in "confusion" for the nation's math education! Colligan was right when he said, "*Maybe it's not what we ought to lay on every kid.*" [3]

[1] <http://nces.ed.gov/timss/97198-4.html> (p.4)

<http://nces.ed.gov/timss/figure4.jpg> (Figure 4)

<http://nces.ed.gov/timss97198-6.html>

[2] Educational Leadership, May 1993, pp. 4-7, 8-12

[3] "Creating Problems," Newsweek special issue "How To Teach Our Kids," September, 1990, pp. 16-22

[4] Curriculum & Evaluation Standards for School Mathematics, National Council of Teachers Of Mathematics, Reston, 1989. p. 8, p. 68.

[5] <http://nces.ed.gov/pressrelease/timss298.html>

[6] Math as a Way of Knowing, Susan Ohanian, Stenhouse Publishers, 1995

* With the cooperation of 24 volunteers, we have surveyed college students regarding their high school math education. We have sample surveys of students from big names universities all the way down to community colleges from 13 States.