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A Response to Dancis

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In response to Jerome Dancis' article "Middle School Math Teaching and How It Harms Our Children," I would like to ask the author when he last taught in middle school. I've taught in an urban district for 31 years, grades 2-9.

Over the years the State Department of Education has grabbed every fad that has come down the line. Usually these fads come from colleges and universities, and they are someone's mandatory research project or doctorate. Really learning the basics has been "out of style" for quite a few years. The results are that we have generations of young adults unable to read or write complete thoughts. The same is true with math. Too many of the "average" students can't do simple multiplication facts in middle school. Yet, from sixth grade on, a large percentage of the work is based on multiplication. I'm sorry if Dr. Dancis feels that 7 or 8 year olds should not learn the basics. Doing manipulative projects are fun, but if Dr. Dancis wants his college students to do college level mathematics, a strong foundation must be built. A poor foundation in the earlier years of education will not withstand more advanced work.

As students advance from elementary school to middle school, elementary facts (the foundation) should have been mastered. It is very frustrating to have sixth and seventh graders working on a second and third grade level. They feel it, too. This is where the disruptions in class usually come from. We need parent responsibility. I don't want to hear, as I did today from a young man, "I have football practice everyday so I can't do homework."

Most teachers do not allow calling out in class simply for their own sanity. Most middle school teachers have learned that there are many modalities of learning and employ many of them to reach the greatest number of children. As for "cookbook" instruction, any good teacher will explain the what and why of any subject to make a point and again to reach as many children as possible.

We do not work with college age students but 11-14 year olds. We correct and discuss homework. Children learn from these class discussions. Also, at this age children need a lot of repetition. It is not a waste of time to help youngsters individually. Their attention span is known to be short (30-35 min.). After 45 minutes most of them are ready to pack up and leave. It's not insulting; this is a fact of life. Therefore, presenting lessons in a concise method with a variety of short activities helps them. Seat work is not glorified babysitting if the students want or need help. Most educators do not waste time. We are required to have one grade per week. These graded assignments can be a variety of assignments. Personally, I normally will have a quiz or a chapter test a week. But, I also assign projects with each chapter, do journal writing involving a concept we've learned that week and some extra credit.

The only time I have found homework not collected was in college math classes. In my classes we, meaning the class, correct, discuss and collect the work because not only the teachers but other students' methods and reasoning quite often help those who may be having difficulty.

Maybe college instructors do all or nothing grading but, in my experience, most middle school math teachers give partial credit for work when the process was correct if the students show their work.

As for Dr. Dancis' suggestion of having school principals wave a magic wand and have teachers jump, think again, it won't work. Dr. Dancis is entitled to his academic freedom. Most principals understand what academic freedom is and respect it. If any college administrator tried to take away Dr. Dancis' academic freedom there would be a hue and cry from him. The K-12 teachers have the same professional rights as their college colleagues.

In California secondary teachers, starting with grade

8, must have a valid California Teaching Credential in their subject. Therefore, a teacher with a General Credential lacking a math major or minor can't teach algebra or higher. A biology major who doesn't have chemistry as a minor cannot teach chemistry. If administrators allow this there are costly financial consequences for the school district.

I'm sorry Dr. Dancis' experiences with the public school of his choice has not been up to his standards. Before crying wolf, I suggest he spend a year of so actually teaching middle school children. It is an eye-opener.

What Else Do We Forget to Tell Our Teachers?: A Response to Dancis

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In his article "Middle School Math Teaching and How It Harms Our Children," Jerome Dancis (*HMNJ* 20, 1999) raised a number of pertinent issues related to classroom practice. In particular he identified a number of fundamental teaching practices that were not described in his local school system's teaching guides. I would like to elaborate on one of the issues, that of assessment in mathematics teaching. Dancis describes a disconcerting "all-or-nothing" scoring procedure used by a teacher to score an algebraic simplification question out of 25 points. Although we have no idea how many years this teacher had been teaching, there are clearly aspects of assessment practice that s/he needs to learn. I pose the following question: What do we as mathematics teacher educators forget to tell our preservice teachers about assessment?

To ensure that future mathematics teachers employ a diversity of assessment strategies, we expose our preservice teachers to journal writing, mathematics project work, portfolios and other alternate assessment strategies. These strategies have their place in the teaching of mathematics and should be encouraged because of their educative role. Also, many of our preservice teachers did not encounter these forms of assessment at school, hence the need to introduce them to the teachers. However, when practicing teachers (in the USA) are expected to have in excess of 20 grades per student in a 6 week reporting period, we understand why teachers resort to assessing homework, testing 2-3 times a week and collecting grades at every opportunity. Ensuring that the assessment proce-

dures are reasonable, that tests are well constructed and scored fairly, would go a long way to alleviating some of the difficulties expressed by Dancis. Far too frequently we forget to inform our preservice mathematics teachers of the basics of sound test construction, implementation and grading. In the teachers' "real world" they will be required to test, test with traditional pencil-and-paper quizzes and tests, and unfortunately test frequently.

AN EXAMPLE

In figure one I depict one question from a 50 minute test to illustrate the characteristics of test construction discussed below. I have specifically illustrated my argument with a very traditional algebra test because it relates directly to the experiences of practicing teachers. Each question tests some aspect of factoring. Figure 2 gives, as an example, the scoring rubric for question 2.4. Two possible solutions are given to guide the teacher's assessment of possible student solutions. Points are allocated for specific steps in the anticipated solutions.

I turn my attention to addressing some basic issues of test design we neglect to tell our preservice teachers. What every teacher should know before constructing his or her first class test:

- a. Not all test questions should be of equal weighting. Dancis describes how the teacher had four problems, each worth 25 points. Did each of the questions require the same amount of work to