

Consumer Reports on Student Loan Debt



(click for larger image)

[Update November 10, 2016: a comment on this article was posted on one of my other blogs. I have encouraged the commenter to post it here instead. Hopefully that will happen soon.]

Consumer Reports, the magazine that used to review cars and appliances to help people choose the best fit for them, has now officially jumped the shark. **The image to the left is the cover of the most recent issue. And it made my blood boil.**

Going to college was not the mistake. The mistake occurred in the seventh grade when many students decide math is just too hard for them. ([As I noted a few years ago, President Obama is among this group.](#)) Once they bailed out of the math curriculum, they also lost the chance to major in serious science, engineering, and economics. And therefore, they lost their chance to obtain a college degree that is actually worth something in today's job market.

But those who pile up \$100,000 in student loan debt to get a degree in interpretive dance deserve no sympathy.

Making Math Education Even Worse



Am I Friendly
or Unfriendly?

American students are already struggling against the competition. The Common Core won't help them succeed.

An [op-ed in the August 6 Wall Street Journal](#) caught my eye. I borrowed the title for this article: "Making Math Education Even Worse." The subhead reads ⇒

As regular readers know, I take math very seriously. I have watched my students' math skills decline precipitously over the 3+ decades I've taught economics. Today we have students who cannot solve a simple equation like $2x + 3 = 7$. (I wish I could say I was joking.)

The op-ed author, Marina Ratner, has quite a distinguished

resumé. [1] And it's hard to argue with this:

As his assigned homework and tests indicate, when teaching fractions, the teacher required that students draw pictures of everything: of 6 divided by 8, of 4 divided by $2/7$, of 0.8×0.4 , and so forth. In doing so, the teacher followed the instructions: "Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for $2/3$ divided by $3/4$ and use a visual fraction model to show the quotient . . ."

Who would draw a picture to divide $2/3$ by $3/4$?

This requirement of visual models and creating stories is all over the Common Core. The students were constantly told to draw models to answer trivial questions, such as finding 20% of 80 or finding the time for a car to drive 10 miles if it drives 4 miles in 10 minutes, or finding the number of benches one can make from 48 feet of wood if each bench requires 6 feet. A student who gives the correct answer right away (as one should) and doesn't draw anything loses points.

Here are some more examples of the Common Core's convoluted and meaningless manipulations of simple concepts: "draw a series of tape diagrams to represent $(12 \text{ divided by } 3) \times 3 = 12$, or: rewrite $(30 \text{ divided by } 5) = 6$ as a subtraction expression."

This model-drawing mania went on in my grandson's class for the entire year, leaving no time to cover geometry and other important topics. While model drawing might occasionally be useful, mathematics is not about visual models and "real world" stories. It became clear to me that the Common Core's "deeper" and "more rigorous" standards mean replacing math with some kind of illustrative counting saturated with pictures, diagrams and elaborate word problems. Simple

concepts are made artificially intricate and complex with the pretense of being deeper—while the actual content taught was primitive.

But It's Even Worse

What Dr. Rattner doesn't point out is the two-edged impact of drawing pictures instead of learning arithmetic. First, the pictures will probably not help many of the students who are math-challenged. Second, and, in my view, more importantly, drawing pictures wastes the time of students who are adept at math. So Common Core is doubly harmful. It holds back the more math-adept students while failing to help many of the math-challenged.

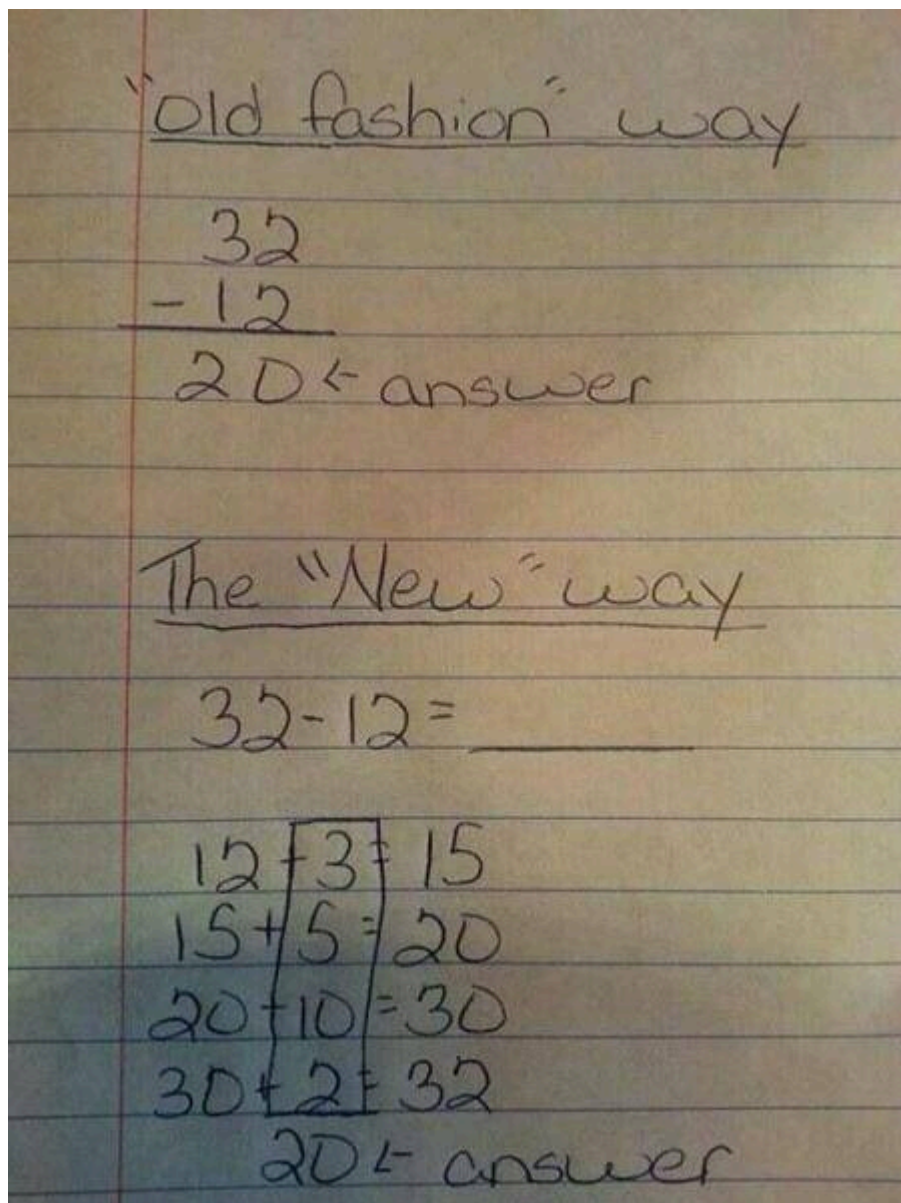
Some Common Core exercises emphasize the use of “friendly numbers.” I have never understood what makes one number friendlier than another. But I have a guess. Numbers that have pointy, sharp corners (7, 5, 4) are unfriendly. Numbers that are nice and round (3, 6, 8, 9, 0) are friendly. I don't know what to do with 1 and 2. I hope someone who knows Common Core can help me with this classification issue.

[1] *Ms. Ratner is professor emerita of mathematics at the University of California at Berkeley. She was awarded the international Ostrowski Prize in 1993 and received the John J. Carty Award from the National Academy of Sciences, of which she is a member, in 1994.*

Common Core Math Fail

According to [NBC's Washington bureau](#), this is the way to solve a simple subtraction problem using Common Core math

procedures. Note that the original calculation requires one calculation – two if you subtract one number at a time from right to left. Here's your Common Core math **tail for this week:**



Is this really the best way to solve this problem?

The Common Core solution requires seven calculations with numerous opportunities for errors. The idea seems to be to make the numbers in the third column integer multiples of 10 as long as you can. Let me suggest an easier technique:

12	+	5	=	17
17	+	5	=	22

22	+ 5	= 27
27	+ 5	= 32
	20	

Forcing the students to figure out what number to add to 12 to give 20 basically asks them to calculate $20 - 12$. Why is that any easier than calculating $32 - 12$? This has all the earmarks of math education specialists who always manage to come up with screwball techniques *because they don't know math!*

Subject Matter Expertise is Lacking

As many have observed, a major problem with K-12 education is that teachers are trained to teach. They are not actually required to know much about the subjects they teach. It happens I have a first-hand example.

I am professor *emeritus* of economics at California State University, East Bay. We have a small Master's program in our department. Decades ago, when I was teaching in that program, one of my students was a high school teacher. She did very well in the class I taught and went on to successfully complete the M.A. After the course was over I asked her if she was going to teach high school economics. She replied, "No. I can't. My certificate is in business. To teach economics I need a certificate in social studies."

Believe me when I tell you that **things have not improved** in the years since that episode. Knowing the course material is apparently less important than acquiring pieces of paper alleging that the holder is able to do something.

Conclusion

The necessary changes will not happen as long as powerful teachers' unions continue to run the public schools. Charter

schools and private schools are two alternatives. I have to point out that charter schools are part of the public school system in California. However, charters have considerably more flexibility in designing classes and hiring (or firing) teachers.

The U.S. is falling behind the rest of the world, especially many Asian countries. Even today, a large fraction of science and engineering Ph.D.'s awarded by our universities are earned by foreign students. Will our politicians wake up in time?

Math is Hard

Math is hard. That point was made once again by [James Taranto in the March 13 Best of the Web Today](#) at the [Wall Street Journal website](#). The excerpt below is the last item in today's column.

[Talk About Small Beer](#)

The Los Angeles Times's Paresh Dave brings us the latest legal news:

For years, thousands of hockey fans and other arena-goers in Idaho have paid \$4 for a "small" beer, served in a squatty plastic cup, and \$7 for a "large" beer, served in a taller cup. According to a lawsuit filed this week against CenturyLink Arena in Boise, the cups hold the same amount of beer, despite their apparent differences.

The arena, operated as Block 22 LLC, is accused of knowingly misleading and defrauding customers and intentionally adopting "unconscionable methods" that amounted to deceptive business practices.

The lawsuit filed in Idaho state court by two individuals and a couple seeks class-action status to represent the thousands who have bought the \$7 beer. They seek punitive damages as well as more than \$10,000 in actual damages.

In response, the arena president put out a statement acknowledging error:

“It was recently brought to our attention that the amount of beer that fits in our large (20-oz) cups also fits in our regular (16-oz) cups. The differentiation in the size of the two cups is too small. To correct that problem, we’re purchasing new cups for the large beers that will hold 24 ounces, instead of 20, for the remainder of this season to provide better value to our fans.

It’s not clear how a 20-ounce cup can hold only 16 ounces of beer [sic] (or perhaps a 16-ounce cup can hold 20). But 16 ounces for \$4 amounts to 25 cents an ounce, while 24 ounces for \$7 comes to more than 29 cents an ounce, and 20 ounces for \$7 is a whopping 35 cents an ounce.

Plaintiff Brady Peck claims he’s bought 30 large beers over the years, which means that even if he got the full 20 ounces, he paid \$60 more than the small-beer price. The other three plaintiffs “attended multiple sporting events during the last five years and purchased at least one large beer.” It’s hard to see how that could add up to \$10,000 in actual damages, but math doesn’t seem to be the plaintiffs’ strong suit.