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Math for Elementary Teachers III

Calculators vs. Computational Algorithms

Today's modern technology has done wonders for computational speed and accuracy. Many people now rely on computers and calculators to do their mathematical figuring without the slightest bit of guilt for not using mental or paper-pencil computation. While the reliance on technology has grown so has the controversial argument about technology's position in education. When reading Steven Leinwand's article and Diane Hunsaker's article, one will hear the two contrary points of view.

Leinwand begins his article by challenging readers to consider this issue as one that must be discussed because technology is not leaving. Using the argument that technology is here to stay he says educators need to quit spending endless hours teaching students long, burdensome computational algorithms and save time by just teaching computer and calculator fluency. "We need to admit that drill and practice of computational algorithms devour an incredibly large portion of instructional time, precluding any real chance for actually applying mathematics and developing the conceptual understanding that underlies mathematical literacy" states Leinwand. His argument poses teaching technological fluency will allow for more time to teach how math is used in society.

Contrary to Leinwand's argument is Hunsaker's article called *Ditch the Calculators*. Obvious from her article's title Hunsaker believes calculators and other technology has caused our society's mathematical intelligences to degrade. She says, "Calculators prevent students from seeing...[the] inherent structure and beauty in math"

and therefore, “Students learn far more when they do the math themselves.” Her argument maintains students need to learn computational algorithms in order to gain understanding of mathematical concepts.

In my opinion, I do not think calculators should be students’ only source for mathematical computation; however, I also do not believe calculators should be tossed out the window. I maintain that students need to learn and reason computational algorithms in order for solutions on calculators to be understood. If students just punch in numbers with no rational reasoning then calculators’ solutions will be just a bunch of meaningless numbers. On the other hand, students need calculators because they are commonplace and more efficient for the everyday workplace. Since educators have limited time for instruction they should teach the basic foundational algorithms and calculator usage for extremely difficult problems. Then students can find correct solutions to difficult problems and yet still understand how their calculators processed the answers.

Sources Cited:

Hunsaker, Diane. “Ditch Calculators”. Newsweek. Nov. 3, 1997. pg. 20

Leinwand, Steven. Connecticut Department of Education