Math Wars

In 1989 when “Curriculum and Evaluation Standards for School Mathematics” by the National Council of Teachers of Mathematics was published in the United States a debate was sparked. The debate involved modern mathematics education, curriculum, textbooks, and the idea that the standards and curriculum for the way math is taught in the U.S. needed to be refreshed and strengthened. This debate has now gone on for years, and many have found their own opinions on what is the right way to teach math. People either sided with traditional mathematics or reform mathematics.

The reformed side focuses on the need for students to step away from the traditional basic skills of math, like multiplication, and to learn how to solve real world problems. “That problem solving be the focus of school mathematics…that 'difficulty with paper-and-pencil computation should not interfere with the learning of problem-solving strategies'. Technology would make problem solving available to students without basic skills” (Klein). This strategy in teaching mathematics is far from the traditional methods most were and are used to. This new way of teaching and learning mathematics rely on by the frequent use of calculators by all students because their basic addition, subtraction, multiplication, and division skills would be weaker than the generations before them. The explanation to support these new radical ideas were in the standards, “the Standards reinforced the general themes of progressive education by
advocating student centered, discovery learning. The utilitarian justification of mathematics was so strong that both basic skills and general mathematical principles were to be learned almost invariably through 'real world' problems. Mathematics for its own sake was not encouraged” (Klein). The NCTM’s ideas of what is important when learning mathematics is stated on their website under “The learning Principle” it states “Research has solidly established the importance of conceptual understanding in becoming proficient in a subject. When students understand mathematics, they are able to use their knowledge flexibly. They combine factual knowledge, procedural facility, and conceptual understanding in powerful ways. Learning the “basics” is important; however, students who memorize facts or procedures without understanding often are not sure when or how to use what they know. In contrast, conceptual understanding enables students to deal with novel problems and settings. They can solve problems that they have not encountered before. Learning with understanding also helps students become autonomous learners. Students learn more and better when they take control of their own learning. When challenged with appropriately chosen tasks, students can become confident in their ability to tackle difficult problems, eager to figure things out on their own, flexible in exploring mathematical ideas, and willing to persevere when tasks are challenging. Students of all ages bring to mathematics class a considerable knowledge base on which to build. School experiences should not inhibit students’ natural inclination to understand by suggesting that mathematics is a body of knowledge that can be mastered only by a few” (NCTM, 2011). This is the basis of the standards that were written by the NCTM, and they are very clear on what they stand for. But is there too much of a pull from the basics of mathematics?
Although not everyone agreed on what side to support it was very clear what the new progressive standards stood for. Everyone could define what the goal was in the classroom when it came to the new standards, but it was and still is the traditional standards that are still hard to define by some. The way that mathematics has been taught in the U.S. has evolved. While the “math wars” may be an extreme example of this change, and a long one, they are not the only time that change has occurred in the mathematics standards in the United States. And so when the “math wars” started it was easy to understand what the new standards were, but those who were standing for the traditional standards weren’t always in united on those standards because those standards were always changing. “The term 'traditional' was never clearly defined in the debates. The NCTM aligned programmers were easy to define simply by listing them, and it is true that some specific 'traditional' mathematics programs favored by parents and mathematicians could also be identified, but it is unclear what tradition, if any, they followed. Some of the secondary school mathematics books favored by 'traditionalists' dated back to the 'new math' period of the 1950s and 1960s, at which time they were considered anything but traditional. Others, like Saxon math, included innovations such as review of previous topics within each problem set. The strongest tradition in US education is progressivism itself, not the challenges to it” (Klein). This made it hard for the supporters of the traditional standards to really stand together to defend what they believed in, because everyone had their own definition of what traditional mathematics was.
While the debate in the “math wars” has been going on now for over 15 years transitions from the traditional, dry standards of teaching mathematics to the newer, progressive standards is happening and in many ways has happened. While the progressive side seemed to many to be extremely radical, if presented in a lighter slower way there may have been more support. Because of the advancements in technology in our world there is, and always would have been, a need for the advancement of mathematics in the classroom. “Whether we like it or not, our children will be concerned in the future with more abstract mathematics than their predecessors. The world of computers and computer programs, of automatic production line processes, or of operational research by managements, is a far cry from the world of the nineteenth-century clerk, mill-hand, or small industrialist. Our most important task must be to teach children to think mathematically for themselves” (Marshall). It is clear there needs to be standards set for the teaching and learning of students that will support them in our world today.

Because the two sides are such extremes, and the battle has been ongoing for such a long time it has been difficult for an agreement to be made. Nothing has been specifically set in stone. There are experienced teachers that do have their own opinions on the subject. Many have strong beliefs on the subject, and this is because they have worked with students and seen what happens during the process of learning mathematics. “Hung-Hsi Wu (1999), a university mathematics professor at Berkley who is often critical of reform mathematics education, believes that “the subject of mathematics is a logical unfolding of ideas starting with clear and precise definitions and assumptions. He
also says instruction should begin with “the proper infusion of precise definitions, clear explanations, and symbolic computations” (Brown, Seidelmann, Zimmerman). This belief stands closely to the traditional standards of teaching mathematics, but whatever side he stands on he supports the teaching of mathematics to all children in a responsible sufficient way. While this explanation seems to be specific and solid there are other teachers who feel differently. Here is a definition and some support of the progressive side of the wars from teacher’s perspectives. “Say we understand something if we see how it is related to other things we know. For example, students who have a conceptual understanding of graphs of linear equations will be able to connect an equation to specific ordered pairs that satisfy it. They will also be able to draw on experiences with equations that describe real world situations” (Brown, Seidelmann, Zimmerman).

Although the “math wars” have been an ongoing battle in education for many years there is a need to find a meeting point on the subject. Whether or not the traditional standards are better than the progressive standards is not necessarily the issue at hand. The issue at hand is that our children are being taught mathematics. Not how they are being taught, but that they are being taught. While this battle has raged on there has been a battle being fought in the classroom as well, students are being left behind. Their math skills are lacking, and they will be the ones who pay for it.
Work Cited

