A MATH REALITY CHECK

by:

Alona A. Francisco

Most of the people learned Math, but don’t apply it to their lives and hated learning it. Why do we think this is useful?

The importance of significance in teaching mathematics cannot be over-stated. How often Mathematics teachers are asked "Why are we learning this?" The reasons “you will encounter this in daily life”, "you will use this in college," "it is going to be on the test," or "this is useful in engineering" are not relevant to most K-12 students. Therefore many students unfasten from learning mathematics because of unacceptable answers to their reasonable question, and we end up using methods of coercion to force them into learning an unsatisfying curriculum.

Also in every math class there have been slow students, average students and whiz students. It never occurred that this hierarchy might be avoidable. No doubt, math comes more easily to some people than to others. But the question is: Can we improve the methods we use to teach math in schools — so that everyone develops proficiency?

In particular, Math teachers often fail to make necessary allowances for the limitations of working memory and the fact that we all need extensive practice to gain mastery in just about anything. Students who struggle in math usually have difficulty remembering math facts, handling word problems and doing multi-step arithmetic. Take the example of positive and negative integers, which confuse many students. Given an apparently straightforward question like, “What is -8 + 6?”, many will end up guessing. One way to break it down would be to say: “Imagine you’re playing a game for money and you lost eight pesos and gained six. Don’t give me a number. Just tell
me: Is that a good day or a bad day?” The real essence of Mathematics Education is to make complicated things simple.

The objective of good math teaching should not be to "cover the curriculum" but to show students how to explore our mesmerizing and beautiful world through the lens of mathematics. We must change our focus in math education from a focus on a largely irrelevant and uninteresting set of learning objectives to a focus on making math relevant and engaging for students.

References:

https://opinionator.blogs.nytimes.com/2011/04/18/a-better-way-to-teach-math/?_r=0
http://www.schoolleadership20.com/m/blogpost?id=1990010%3ABlogPost%3A61616