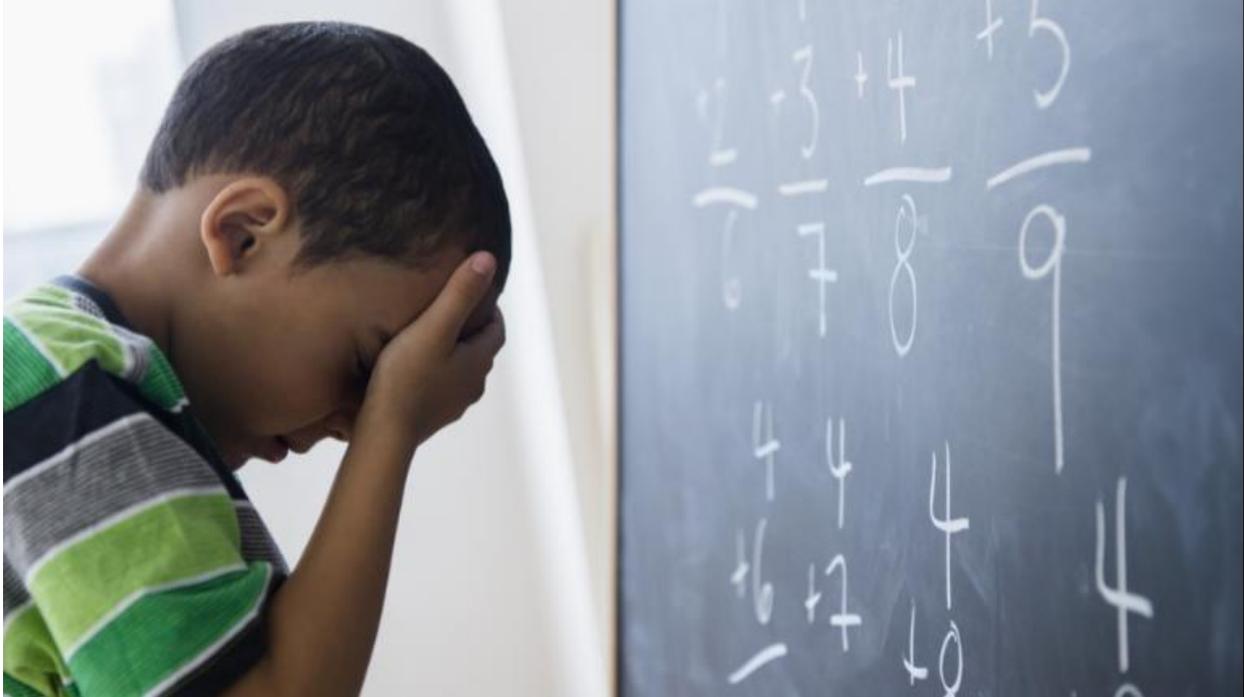# Commentary

What Does Math Mean?
by Anil Shrivastava 'Musafir'

I very often hear educated people say, "Math was always my worst subject," or "I can't even balance my checkbook." We proudly flaunt our innumeracy which, in my opinion, is illiteracy. Is it not an irony that, at the same time, we feel embarrassed when we are confused between words such as "imply" and "infer" or "continually" and "continuously?

We are so innumerate that if someone said that there was a 50 percent chance of rain on Saturday and a 50 percent chance for Sunday, therefore, there was a 100 percent chance of rain on the weekend, we may not question that person's prediction. If you don't believe me, try this in your next gathering and see how many blank looks you get.

Part of the reason for this perverse pride in mathematical ignorance is that its consequences are not usually as obvious as are those of other weaknesses. Most of us ignore that because of general ignorance when it comes to basic math.

In our educational system math is presented as a chore. The teachers simply go through the rigor of mathematical formulae making it fearsome. Only those who excel in tests are considered intelligent. Conversely, math classes should teach why math is important other than

being a requirement for completing one's degree. Students are often made to perceive mathematics as boring, overly abstract, uncreative, and extremely difficult to understand. This is why many of them develop math phobias as adults. However, the idea of having or not having a math brain is completely untrue. Everyone is capable of understanding mathematics at a high level. Even I did later in my life

In my opinion, the math curriculum should emphasize and demonstrate how it can enhance the critical ability to learn and think logically in any field of endeavor. Math helps us distinguish fact from opinion and cause from correlation. Quantitative thinking helps us in processing the information that is thrown at us. In other words, math makes us think critically and independently.

Let me present a simple mathematical problem here. If you are given an option to take a pension of $4,500 a month at your retirement age of 62 or take a one-time lump sum payment of $600,000 considering the average life span of 78.9 years for a U.S. male, which one will you choose? This is a real-life problem. Basic math (not higher math) can help one find the correct solution.

We always hear the phrase, "The survey says." We need to understand the bias factor which can be a response bias, observer bias, or expectation bias. We also hear about the mean income and median income of the U.S. population. What's the difference between the two? Statistics 101 can make us understand and question the information given to us.

We scream at one another at town hall meetings and call those who disagree with us traitorous and un-American. And yet

there's nothing inherently divisive about health insurance. It's just expected value: the probability of you getting sick multiplied by the cost to treat you. Knowledge of basic math can come to our rescue right there.

I'll again emphasize reform in how math is taught in schools and universities. Students need to be taught giving them real-life examples such as different types of mortgages and how to decide which one will best suit one's circumstances. Students must also develop an understanding of concepts; they must understand in simple terms how an algebraic equation will help them in real life. Students in middle schools often participate in derby car races. They can be taught the relationship between various factors such as the weight of the car, incline (slope), and speed using basic algebra and trigonometry. This will attract students' attention and create interest in math.

Let's not forget that Math has provided humanity with a scheme of structured reasoning causing us to evolve and learn how to reason more deeply than using natural language alone. In my opinion, both are equally important.