Sufficiency Of Mathematics In Every-day Life And At Work

(Mathematics may not be necessary, but it is Sufficient.)

It is time to stop claiming that mathematics is necessary for jobs. It transcends them, it does not need them. It is time to stop asserting that students must master algebra to be able to solve problems that arise every day, at home or at work; 99% still survive without understanding it. It is time to stop telling students that the main reason they should learn mathematics is that it have applications. Most of the applications seems beyond the level of the students. We should not tell our students lie. They will find us out, sooner or later.

Society as a whole thinks that mathematics is worth doing. On account of applications and jobs? Certainly not. The main reason behind, we think is its 'Sufficiency to Empathy & Understanding'. Understanding has the ability to change your perspective, changing perspectives makes your mind flexible, it makes you open to new things and makes you able to understand things better by the use of yet another method. It is a tool in our hands to make our life simpler and easier. Let us realize and appreciate the beauty of the subject and embrace it with all our heart.

(Most of you would like to know why to study Mathematics?)

Reminding you the actual task of schools is to do their best to teach students to think, and of all subjects none is better suited to this than mathematics. It is confirmed not by Mathematician themselves but the National Policy on Education saw Mathematics as a “vehicle to train a child to think, reason, analyse and to articulate logically.” In no other subject is it so clear that reasoning can get results that are right, and verifiably right. When you solve $x^2+x = 110$ and get $x = 10$ or $x= (-11)$, you can then calculate 10^2+10 or $(-11)^2+ (-11)$ and know that you are correct. No other subject has this capacity at the elementary levels. Mathematics increases the ability to reason and shows its uniqueness, at the same time. Psychologically saying, Mathematics helps in developing an analytic mind and assists in better organization of ideas and accurate expression of thoughts. Summing up few of the qualities that are nurtured by mathematics are creativity, power of reasoning, abstract or spatial thinking, critical thinking, problem-solving ability and even effective communication skills.

(Now the question is how Mathematicians do so?)

Mathematicians create so-called models of the world, and study them; rather than studying the world directly. This applies even to the simplest mathematics. After the age of four or five we do not study addition by actually combining groups of objects and counting them. Instead, we use an abstract mathematical construction, or model, known as the positive integers i.e. 1, 2,3,4,5 and so on. Similarly, we do not do basic geometry by cutting shapes out of paper, partly because it is not necessary and partly because in any case the resulting shapes would not be exact squares, triangles or whatever they were supposed to be. Once again, we study a model, a sort of idealized world that contains things that we do not come across in everyday life, such as infinitely thin lines that stretch away to infinity, or absolutely perfect circles, and do not contain untidy, worldly things like hamburgers, chairs or human beings. If one works in a

practical area of mathematics, then there will be two conflicting criteria for what makes a good model. On the one hand, the model should be accurate enough to be useful, and on the other, it should be simple and elegant enough to generate realistic and interesting mathematical problems. It is tempting, as a mathematician, to attach far more importance to the second criterion 'mathematical interest and elegance' than to the first 'accuracy' even if this means not immediately contributing to the gross national product of one’s country.

Justify Mathematics by appeals to work, to getting and spending. It is above that far, far above. Can you recall why you fell in love with mathematics? It was not, I think, because of its usefulness in controlling inventories. Was it not instead because of the delight, the feelings of power and satisfaction it gave; the theorems that inspired awe, or jubilation, or amazement; the wonder and glory of what I think is the human race's supreme intellectual achievement?

We can be confident that mathematicians, if they are given the freedom to pursue the subject that gives them so much pleasure, will continue to produce a body of work that is important in every sense of the world. Terminating it here with G. H. Hardy's words from his book 'A Mathematician's Apology'.

“What we do may be small, but it has a certain character of permanence; and to have produced anything of the slightest permanent interest, whether it be a copy of verse or a geometrical theorem, is to have done something utterly beyond the powers of the vast majority of men.”