There is no escaping the influence, and the virtues, of math

In an effort to illustrate what he described as the "unreasonable effectiveness" of mathematics, the late Nobel laureate physicist Eugene Wigner used to tell a story.

The tale concerned two former high school friends, one of whom had become a statistician working on population trends. The statistician was explaining the meanings of various symbols he used when his friend asked about the meaning of pi.

When the statistician explained that pi was the ratio of the circumference of a circle to its diameter, his friend responded, incredulously, that "surely the population has nothing to do with the circumference of the circle."

The friend's incredulity is understandable, since it's reasonable to wonder what a relatively abstract matter like the circumference of a circle has to do with a population. But that is the unreasonable effectiveness of mathematics -- math seems to insinuate itself into everything, even things where it appears not to belong.

For example, everyone knows that math is absolutely essential to physics and, to a lesser extent, to the other natural sciences. But what many people don't know, and others choose to forget, is that math is crucial to the study of just about everything, including ecosystems, financial markets and sports scores.

Truly, everything is number, as the Pythagoreans said. And that is why everyone needs a decent understanding of mathematics.

The problem, of course, is that most people, particularly when they're in school, don't see how math is relevant to their lives. In an ironic way, this may be a direct result of its unreasonable effectiveness.

Although math historically grew out of practical needs, such as the need to measure land or to calculate financial transactions, it soon reached an impressive level of abstraction, a level that seemed to divorce it from the real world.

This abstraction makes math a difficult study, and also leads many students to wonder why they must study such formal fare. But abstraction is also math's virtue, for by refusing to restrict itself to any particular study, it becomes applicable to everything.

As positive as that is, it still leaves us with the problem of making math exciting and engaging. Indeed, as mathematician John Allen Paulos once observed, many people seem to wear their (putative) inability to do math as something of a badge of distinction.

Fortunately, though, some teachers have recognized that ignorance of math isn't something to be proud

of -- in fact, it's fatal. And these teachers have taken it upon themselves to improve the teaching, and the learning, of this uniquely versatile subject.

One such teacher is Simon Fraser University mathematician and scientific director of MITACS (Mathematics of Information Technology and Complex Systems) Arvind Gupta, who is writing a continuing series for The Vancouver Sun on the importance and beauty of mathematics.

Other teachers have been involved in reworking the way math is taught in British Columbia and elsewhere, by emphasizing the very real world applications of this seemingly other worldly subject. This is a hopeful development, as it will help students to understand why they're doing math rather than simply how to do it.

And in the process, it could help more students -- and ultimately, the rest of us -- to better understand the world.

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Nearly everyone who responded to Tuesday's Sun Opinion web page poll question -- 91.67 per cent -- said the provincial government should implement two of the main recommendations of the Davies commission on police-related deaths.