Thinking, feeling and working like a Mathematician

This article celebrates the first of a series of weekly digests published by Presque Partout Sino, currently a small startup run by a couple of passionate college students. I wanted to take the time and space, to write about an area that I'm particularly passionate about, namely how generations of students should view the subject of Mathematics and why it matters no matter what profession one enters.

Mathematics is the foundation of Computer Science, Engineering and indeed any STEM discipline. Bill Gates entered Harvard intending to major in pure Mathematics and whilst he ultimately chose to pursue a career in software and engineering, he mentions the strong foundation that his education in Mathematics provided throughout his entire career. Jim Simons, legendary quant and hedge-fund manager also attributes his successful way of thinking first and foremost to his initial academic mathematical career, publishing many seminal papers before

entering the field of finance. Lee Hsien Loong, the prime minister of Singapore was senior wrangler in his Cambridge Mathematical Tripos Cohort (no easy feat), and ultimately went on to have a tremendously successful career in politics.

By far from being an esoteric and useless subject, Mathematics is what makes our world run and tick. It's the subject that I love the most and dearly so, there's nothing else like it in the world. Good Mathematics is hard to define, but you know it when you see it – it clicks and infuses the reader with a sense of awe and wonder that's incomparable in data-driven disciplines such as Biology or Experimental Physics. What strikes me most about Mathematicians is that they are driven by curiosity alone. It's not about hitting a certain market capitalization, profit margin or G.P.A, it's about truly understanding something.

Being able to understand and appreciate a piece of knowledge is an invaluable gift from the teacher to the student. It's a skill that is so often overlooked in our generation as we constantly chase more and forget to think about what we already have deeply enough. It is my hope that by founding this company, we are able to provide this level of educational opportunity to students around South East Asia and the entire world and help them grow into Mathematicians in spirit. Regardless of age, gender, race or profession - everyone can and should be a Mathematician.

~ Bruce Changlong Xu

好奇的动力

我想代表 Presque Partout Sino 来写一篇关于数学在我们人生中的重要性的文章。无论你将来想进入哪一行职业，如果能够在高中和大学期间踏踏实实的把数学学好，肯定会对人生道路的下一步有益。虽然我不是大学数学教授，数学是我青自最喜欢的科目，而且特别想跟大家分享我对现代数学教育的意见。

美国、英国大学的数学部门大部分上会比西方强，因此很多 STEM Graduates 都想在美国或者英国学习，追求职业发展的机会。为什么呢？我觉得主要原因就是西方文化注重自由、独立思想，反而来说，东方更重视遵守规则、高效完善。两种不同的教育方式都有独特的利与弊、虽然东方和西方的教育方式差异大，我们不应该完全接受或者拒绝它们。最成功的学生能够同时体现美国的那种知识活力的精神、而保持香港、中

国、台湾和新加坡的那种仔细用功的心态。因此，我觉得美国的这种基于文科和全才教育对年轻人将来会有巨大的利益。

话虽如此，大部分在大学当中学到的知识会对将来的职业几乎没有直接使用。老板叫我们准备总结这个月的公司金融情况的报告时，我们不会立即去找 Nietszche, Kant 或者 Hume 的意见。除了基本的加法和乘法之外，大部分的日常工作不会需要大学之中学到数学定，只要能够准确的确认买东西之后的收据已经够好了。虽然在有些在金融行业的工作人员会利用 Black Scholes, PDE Theory 和 Probability Theory（所谓 “Quantitative Analyst”）这种概念不会对我们生活中最重要的功能有太大的影响。尽管如此，能够真正了解及欣赏数学的人才（比如 Bill Gates，Jim Simons，Lee Hsien Loong）会发现数学不仅是一种科学学科、而更重要是一种非常强大的思维方式。其实最牛逼的数学家不是最有才能，甚至不是最用功或者最有规律的，最成功的数学家就是本身最好奇的人

Sal Khan 之前很适当的说过 “教育的目标不是成绩、而是让学生彻底掌握课程中的材料”。特别在一个资本主义的社会里，我们会为了追求更多钱、更高的职位、幻想的货品、从而忘记好奇在我们生活中的重要地位。 **~徐长龙**