The biggest misconception that people have of mathematicians is that they all see things in equations,” says Professor Tan Eng Chye with a wry smile. Calm, composed, and with a dry sense of humour, the 56 year-old — a highly respected academic and educator — fits the bill of the hyper-logical mathematician. Yet Prof Tan — affectionately known by some students as the “Blogging Provost” for keeping a blog (https://blog.nus.edu.sg/provost/) to engage the youths — says that mathematical logic can be too cold for certain aspects in life.

He would know, for he certainly has done his fair share of seemingly ‘illogical’ things in his life. Like when at the age of 53, he got himself back into a fitness routine after setting himself the goal of completing 30km over a day at the 2015 Gobi Desert Challenge. This meant six months of walking 10km twice during the work-week, and starting his weekends with a four-hour-long 24km trek from his home in Yio Chu Kang to MacRitchie Reservoir and back. The Gobi Desert Challenge has been an annual affair for him ever since. Or when, as a Mathematics undergraduate in the 1980s, he risked failing his third year when he skipped all his lessons to attend classes with the girl of his dreams, Ms Ng Lo Mun (Science ’84), who was a year ahead of him. He would go on to clear his modules anyway — and she would go on to be his wife.
NOT STOPPING AT THE TOP

Behind Prof Tan’s unorthodox ways are the high standards he sets for his pursuits. And now as the President of NUS, he has big plans for the University. “NUS has done extremely well in the last 15 to 20 years, and we are among the top universities in Asia and the world. I hope to be the president to lift it to the next level,” he says. “I wish to set the foundations for a great university: one with educational innovation; one that nurtures high-quality, future-ready graduates; one that does high-quality research that impacts not just academia, but also society. I have also an interest to position NUS as a place that promotes innovation and enterprise.”

These are ambitious goals indeed, but Prof Tan feels that they are neither unachievable, nor constitute a comprehensive list. In an earlier interview, he also mentioned that as president he will focus on three areas — personalised learning, inclusive learning and lifelong learning. And he practises what he preaches. “I am now trying to learn data analytics — and it should come easier for me as a mathematician but I am trying to probe deeper,” shares Prof Tan, who earned his PhD from Yale University in 1989. “Academics such as myself are quite used to self-learning: we just pick up a book. We are trying to inculcate this skill in our students, because continual learning is very important.”

“Four years of education is not enough — you have to update your knowledge and competencies and be able to respond to the changes out there, especially at the pace they are changing.” As such, he wants to equip all NUS students with computational thinking, (“Which essentially is a problem-solving approach whereby problems are broken down and solved in individual portions before an abstraction is done to derive a macro solution. It also includes algorithmic thinking, a way of arriving at a solution through clear definitions of the steps needed.”) and quantitative reasoning as a foundation to build their analytical skills. The father of four children — all of whom are either current NUS students or NUS alumni — goes on to enthuse: “Later on, we’d want to put in design thinking, so that while quantitative and computational thinking activates the left part of your brain, design thinking can activate the right!”

It is clear that he is passionate about education. As early as 1995, he revamped the Singapore Mathematical Olympiad to allow more students to participate. Under his initiation, a series of project teaching workshops for teachers was also started in 1998.

LEADING FROM THE FRONT

Given his affable temperament, it is hard to imagine that Prof Tan’s original ambition was as far-removed as his present position could be — he wanted to become a policeman. Despite being a Raffles Institution alumnus who excelled in his studies, Prof Tan, the eldest of six children from a struggling family, did not really think much about entering academia. “I was en route to becoming a policeman when they realised that I was colour-blind,” he reveals.

“I had always been fascinated by the uniform and was very disappointed that my hopes were dashed. Thankfully, I had a number of tutors — Professors Chong Chi Tat, Louis Chen (Science ’64), Peng Tsu Ann (Science ’62) — who took notice of me and guided me onto the path of academia and to join the University as a faculty member.”

The military training was not all lost either. “I trained as an officer in the military, but was transferred to the police as a probationary inspector. This exposure allowed me to engage with people from many walks of life.” A man of measured words, Prof Tan clearly has strong people skills, given the many leadership roles he has held, from being the President of the NUS Students’ Union’s Physical and Mathematical Sciences Society, to Dean, Provost, and now, President of NUS. Humbly, he credits those who worked with him for the achievements he has made at every stage of his career: “The team is very important, and transparency and trust are critical. I seek those who can draw a clear line between his or her responsibility towards the institution and his or her personal interests,” he says. Prof Tan considers himself fortunate to have been able to pick the right people. “And I’m proud that some of them get poached by other universities — that is a great compliment!”

Yet Prof Tan’s enterprising trait as a leader is certainly impactful too, and this was demonstrated rather early in his life in NUS, while still an undergraduate. Faced with the task of recruiting members for the Physics and Maths student club, he created a unique member incentive: access to the first-ever “10-Year Series” compilation of past exam papers with solutions for the Science faculty. This, he created by single-handedly completing four years’ worth (all that was available in the library) of past papers! “It was good practice for me, anyway,” he says nonchalantly.

The task ahead as President of NUS is, of course, much bigger than that of the Physics and Maths club, but it does not daunt him. “I simply set a target and stick to the course,” he says, when asked how he approaches challenges. “I do think I have a high level of perseverance. It partly has to do with the training as a mathematician — we might be working on certain things for months or years. The eureka moment might come randomly during a shower or a walk, but that only is because we have allowed our mind to work the solution out subliminally.”

So don’t think that Prof Tan is taking it easy when he is strolling about on campus, or queuing up for bak chor mee at the Hong Lim Food Centre on Saturdays. His mind is always working — and who knows what radical ideas might just come to him. A