จากผู้บริหารยุทธศาสตร์วิทยาศาสตร์ไทยในอุตสาหกรรม
ดร. ปัญญา ตรงกุมทอง
"อยากให้บริษัทไทยกลายเป็นธุรกิจที่มี
พื้นฐานทางวิทยาศาสตร์และเทคโนโลยี"

ในขณะที่ประเทศไทยยังเผชิญกับการแข่งขันทางธุรกิจในระดับโลก ความตื่นตัวทางการศึกษาและการวิจัยส่งผลต่อการพัฒนาประเทศมีความสำคัญมาก แต่จากประสบการณ์ในตลาดที่แข็งแกร่ง บริษัทไทยต้องมีการปรับตัวและปรับแผนในการพัฒนาศักยภาพในการแข่งขันในอนาคต

ดร. ปัญญา ตรงกุมทอง ผู้บริหารยุทธศาสตร์วิทยาศาสตร์ไทยในอุตสาหกรรม (The Thailand National Research Council) ได้สื่อสารถึงความท้าทายที่เกิดขึ้นในบริบทการพัฒนาเทคโนโลยีและวิทยาศาสตร์ในประเทศไทย บริษัทและภาคธุรกิจต้องมีการยอมรับและเข้าใจถึงการทำธุรกิจที่มีพื้นฐานทางวิทยาศาสตร์และเทคโนโลยีจึงจะประสบความสำเร็จได้

"เราต้องมีการเปลี่ยนไปจากความคิดที่เคยไม่ค่อยให้ความสำคัญต่อการพัฒนาเทคโนโลยีและวิทยาศาสตร์ แต่ในยุคที่โลกเปลี่ยนไปเร็ว เราต้องมีการพัฒนาที่มีพื้นฐานทางวิทยาศาสตร์และเทคโนโลยี ที่จะช่วยให้ธุรกิจไทยมีการพัฒนาการแข่งขันในอนาคตได้" ดร. ปัญญา กล่าว


โดยในปี 2564 ได้มีการดำเนินการในหัวข้อ "การพัฒนาโครงสร้างพื้นฐานทางวิทยาศาสตร์และเทคโนโลยี" ซึ่งมีการจัดการศึกษาและอภิปรายถึงการพัฒนาที่จำเป็นในการพัฒนาการแข่งขันในอนาคต ซึ่งจะมีการนำเสนอในงานวิชาการต่าง ๆ ที่มีการจัดขึ้นอย่างต่อเนื่อง

"การมีการแข่งขันที่ดีจะช่วยให้ธุรกิจไทยมีการพัฒนาอย่างมั่นคงและยั่งยืนได้" ดร. ปัญญา กล่าว พร้อมกับการแนะนำให้ธุรกิจไทยต้องมีการปรับตัวและปรับแผนในการพัฒนาศักยภาพในการแข่งขันในอนาคต
FROM A STUDENT PRESIDENT IN AN INTERNATIONAL SCHOOL IN THAILAND
TO A MODERN THINKING EDUCATOR IN THE UK

Dr. Natthapoj Vincent Trakulphadetkrai

“Thai children can remain polite while actively engaging in intellectual discourse, critically and freely challenge their teachers’ and parents’ perspectives. The two do not necessarily have to clash with each other.”

At the age of 33, Dr. Natthapoj Vincent Trakulphadetkrai has already earned four degrees in the UK, including a PhD from the University of Cambridge, a Master’s degree from the University of Oxford, and an additional Master’s degree from the University of London’s University College of London. He has also already secured a full-time permanent contract as a Lecturer in Primary Mathematics Education in the UK. His goal is to change the way mathematics is taught and learned around the world.

International schooling experience

Despite his British citizenship (a result of having lived in the UK for nearly 15 years), Dr. Natthapoj’s childhood in Thailand was not extraordinary by any measure. It was only when he attended The Regent’s International School (www.regents.ac.th) that his life-long perspectives and identity began to be formulated. Dr. Natthapoj attributed this process to the school’s adopted ethos.

The Regent’s is a member of a not-for-profit worldwide network of mostly private schools, called the Round Square, which is governed by a Board under the Presidency of His Majesty King Constantine. At its core is the IDEALS ethos: Internationalism, Democracy, Environmentalism, Adventure, Leadership, and Service. “In my view, the adoption of this ethos makes The Regent’s stands out from other international schools in the region. Coming to school is no longer about attending classes to pass tests. At the risk of sounding cliché, it becomes the process of discovering who you are, and constantly asking yourself whether you have sufficiently done enough to achieve each of these six IDEALS pillars of education in order to become a truly well-rounded person.”

On reflecting of his schooling experience, Dr. Natthapoj was grateful to have had opportunities to develop his leadership skills throughout his five years at The Regent’s International School under a full scholarship. “I always ran for leadership positions at school and always won, be it Student President, Boarding House Prefect, Sport Team Captain, you name it. The Regent’s has always
committed to nurturing future generations of world leaders, and because of that, I had been able to develop my leadership skills from a young age.”

Due to his familiarity with the English curriculum at The Regent’s International School and the fact that the majority of his teachers and friends are from the UK, it was a no-brainer for Dr. Natthapoj to decide to pursue his further education in the UK. To begin with, he earned a First Class Honours degree in BA Ed Primary Education with Mathematics Specialism from Brunel University London, kicking off his ‘decade of higher education’. This was immediately followed by his (first) Master’s degree in Comparative and International Education from the University of Oxford. By the age of 23, he began his doctoral research in education at the University of Cambridge. In the final year of his PhD, he also pursued his second full-time Master’s degree in International Public Policy at the University of London’s University College London (UCL). All these three institutions that Dr. Natthapoj pursued his postgraduate research are generally considered as the world’s Top Ten universities.

Whilst at Cambridge, Dr. Natthapoj, at the age of 24, also set up a non-profit initiative, called the Global Student Education Forum (GSEF), inviting key educational figures from different countries to share their visions and research with members of the Forum at the University. Some of these speakers include the then Deans of Harvard and Stanford Graduate Schools of Education and Columbia’s Teachers College, the then Headmasters of Eton, Dulwich, Harrow and Winchester Colleges, Estonia and Georgia’s then ministers of education, the then Finnish Ambassador to the UK, the then Chair of Economic and Social Research Council (ESRC), the then Director of the International Baccalaureate (IB) Organisation, and the founder of TeachFirst, among other distinguished figures. (More details on GSEF can be found on www.natthapoj.org/GSEF).

Soon after earning his PhD, Dr. Natthapoj was appointed as a research officer on a €2 million European Union-funded project at the University of London’s UCL Institute of Education, which is currently ranked as the world’s top institution in the field of Education by the international Q&S University Rankings. For the past four years, he has been working as Lecturer in Primary Mathematics Education at the University of Reading, training up primary mathematics-specialist teacher trainees as well as supervising postgraduate research students. He is also appointed as the youngest executive committee member of a number of national organisations, namely the UK’s Association of Teachers of Mathematics (ATM: www.atm.org.uk), the British Society for Research into Learning Mathematics (BSRLM: www.bsrlm.org.uk), the British Congress of Mathematics Education (BCME: www.bcme.org.uk) as well as Co-Editor of The Mathematical Association’s (MA: www.m-a.org.uk) Primary Mathematics journal.

Culture and learning

“If you want to work in international environment, being able to communicate in English alone is not enough. You need leadership skills as well as critical thinking skills. In relation to the latter, you need to be able to challenge people’s views and beliefs – something which might mistakenly be considered as being impolite by some in Thai society. I would argue that if you are unwilling to speak up, you are less likely to help develop your organisation’s ways of thinking and doing things.”
“I also want to take this opportunity to encourage Thai pupils to dare to speak up, to challenge people’s views and perceptions. Being polite and engaging in intellectual argumentation are not mutually exclusive. Thai pupils should not have to choose one over the other. They can remain polite while actively engaging in intellectual discourse, critically and freely challenge their teachers’ and parents’ perspectives. The two do not necessarily have to clash with each other.”

According to Dr. Natthapoj, one of the key strengths of the English education is how “it actively promotes pupils to explain their thinking and challenge others’ views, something which is not necessarily encouraged in that many Asian classrooms”. That said, data from TIMSS (Trends in International Mathematics and Science Study) found that (Eastern) Asian pupils, such as those in Shanghai and Singapore, have consistently outperformed their Western counterparts. Dr. Natthapoj argued that “being able to do well in mathematics tests does not always equate to having a good conceptual understanding in the subject. For example, some young children can find the answer to 4 x 3 very rapidly, but when they are asked to, for example, represent 4 x 3 visually, they may not be able to do so. In this example, we would say that whilst these children are able to recall mathematical facts, their conceptual understanding is yet to be fully developed.”

Mathematics does not have to be a bitter pill to swallow

For many of us, mathematics can be quite daunting. Why is Dr. Natthapoj then committed to become a mathematics teacher educator? “I am very passionate about finding ways to make mathematics learning become more accessible and enjoyable for everyone, and I am driven to pass on that passion to my students at university, who are being trained to become the next generation of mathematics-specialist primary teachers.”

“I set up the MathsThroughStories.org project in hope to help teachers and parents globally to learn more about an approach that I truly believe can make mathematics learning not only more effective, but also more enjoyable. The website contains the world’s largest on-line database of over 500 recommendations for mathematical stories covering over 40 mathematical concepts. Since the recent launch of the website in Spring 2017, the website has now been viewed over 33,000 times by nearly 5,000 teachers and parents from over 80 countries globally. Through collaboration with research colleagues from over ten countries across the world since 2014, I also hope to increase the amount of research done in this largely neglected research area.”

“One of the key features of mathematical picturebooks is how they often include mathematical visualization through attractive page illustrations. For example, in one of the mathematical storybooks, ants are marching in 10 rows, each with 10 ants. The 101th ant is sad because he is left on his own in the eleventh row. Straight away, children can see what a remainder means and how it can be visualised. Another unique aspect of learning mathematics in this kind of narrative is that it also helps children to emotionally connect with mathematical concepts, for example, how that remaining ant must have felt when he is left on his own. Moreover, most plots found in mathematical stories are drawn from everyday situations. This helps children to see that mathematics is, in fact, part of their everyday life. Thus, I would like to invite teachers and parents
to visit my project’s website to look for what could become their children’s favourite mathematical stories.”

“Better still, I would like to encourage teachers and parents to encourage their children to create their own mathematical picturebooks. The act of coming up with their own story gets them to think of a meaningful application of mathematical concepts, making mathematics learning much more meaningful to them.”

To learn more about Dr. Natthapoj, visit www.Natthapoj.org

To learn more about Dr. Natthapoj’s research project, visit www.MathsThroughStories.org