

# New Kid On The Block

Leading a more progressive Science, Technology, Engineering and Math (STEM) Education

By a **STAFF REPORTER**

**The new Deputy Principal of SIM International Academy (SIM IA)** is no stranger to driving a futuristic curriculum. An expert on curriculum innovation and 21st century skills, John Yeo is recognised for his work in creativity, and has been invited to speak in China, Qatar, India, Japan, Vietnam, Russia and the United States. In Singapore, he has participated in several Ministry of Education national curriculum reviews since 2006. He is also the 2017 recipient of the Ruth B Noller Research Grant from the U.S. Creative Education for his work on Problem Finding in Creative Inquiry.

Here are excerpts on an interview with Yeo to find out how STEM curriculum can disrupt education design.



**India Se:** What makes SIM IA's STEM curriculum unique?

**John Yeo:** In designing our STEM curriculum, we asked the question- what is worth learning?

Many educators highlight the urgency of getting students to apply their knowledge, but I think we can do more to help students connect ideas to the world around them. To enact our school's vision of leading Asia with education for the real world, we must unpack what essential skills and knowledge are needed to thrive in the real world.

Ability to generate new ideas and to challenge assumptions are important leadership skills and students will also need courage and tenacity in this process. At SIM IA, we guide students in generating new questions and constructing complex problems involving multiple disciplines. At the same time, we give them time and space to mull over problems and to distil the significance of the problem finding and solving process for themselves.

I believe that effective teaching should include hands-on elements

to engage students. Our STEM curriculum is interdisciplinary, and we introduce concepts systematically to link new knowledge to previously acquired skills.

**India Se:** What are your thoughts on the state of STEM education today?

**John Yeo:** Some STEM programmes lack a strong focus on teaching students problem finding skill. Many will harness technology (such as teaching students to code) but not enough is invested in getting students really curious about their research questions. Getting students to start asking questions that really matter – this crucial step is missing.

Today, most answers are easily found online. The core of our STEM programme is our focus in helping students generate 'wonderment' questions. Our teachers work alongside invited industry experts to mentor students and to guide them through a design and prototype process.

Fundamentally, we have to help our students find deeper connections between the real world and what they learn in the classroom. I believe most education systems face the challenge of helping students find this connection, without which little meaningful learning can really take place.

**India Se:** As a father of two, what advice do you have for other parents on cultivating their children's creativity?

**John Yeo:** There is no shortcut. We need to engage our children from an early age. By observing and actively interacting with our children, we will recognise how each child learns best. I firmly believe that before we can ignite our children's passions, we have to provide space for them to feel safe to question, explore and create. Children who grow up in a supportive family environment are more likely to discover an area of deep interest and passion that they will continue to develop.

As a father, I love my children asking questions but I am also a difficult dad who will not offer answers and solutions easily. Engage them in activities that will exercise the whole brain, and stimulate their creative consciousness by allowing them to see that there is always more than one way of getting things done! ■

