Publication: The Business Times, p 23
Date: 16 August 2012
Headline: Solving Asia's 'creativity problem'

Solving Asia's 'creativity problem'

Educators need to stimulate and reward curiosity, encourage risk taking or providing opportunities for discovery

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Way to success: *Creative skills are in high demand by Asian employers who wish to hire employees who can think outside the box, says the writer*

SOME Asian countries arguably have creativity and innovation-averse cultures which makes it difficult to break out to higher income-country status. What is the "real" challenge and what can be done to further nurture imaginative speculation and the capability to bring ideas to life?

In 2003, US linguist William Hannas blamed (in a somewhat stereotypical book titled *The Writing on the Wall: How Asian Orthography Curbs Creativity*) the character-based writing systems of China, Japan and Korea for East Asia's "creativity problem", that is its difficulty to achieve significant scientific and technological innovations compared to the West. One puzzling argument put forward was that unlike the more abstract, alphabet-based languages such as English, the use (and rote memorisation) of graphic symbols implies a lesser degree of abstract thinking and ultimately creativity.

While Mr Hannas' propositions remain highly contentious (one might argue that it is the combination of knowledge and great minds that produces creativity, not the orthography) and out of tune with reality in view of ancient Chinese innovations such as the sternpost rudder or contemporary ones such as Creative's sound blaster sound card, the book points to the wider question how Asia's creativity and innovation potential can be further harnessed.

This is not only a challenge for high-income countries such as Singapore but also for countries such as Brazil, China or Malaysia which have yet to master the transition from resource-driven growth towards a higher value-added, knowledge-intensive type of economic system.

Studies by the World Bank underline the importance of STEM (science, technology, engineering and mathematics) education in achieving economic growth. STEM occupations are among the best-paying and fastest-growing jobs.

Problems include lack of rigorous K-12 mathematics and science standards, shortage of qualified teaching staff, inability to motivate students' interest in mathematics and science or the misalignment between STEM job demands and the structure of the post-secondary STEM system.

Data on the quality of STEM education can help countries stuck in the middle to identify potential disconnects between supply and demand parameters. Information on trends in international mathematics and science (TIMSS) is provided by the International Association for the Evaluation of Educational Achievement.

The *TIMSS 2007 International Mathematics Report*, for example, summarised fourth and eighth-grade students' mathematics achievement in over 50 participating countries and several benchmarking participants.

The TIMSS trends in mathematics achievement data showed great differences between countries such as Malaysia, Indonesia or the Philippines in terms of mathematics and reading.

Strong competencies

Collectively, these nations continue to lag behind students in more developed economies such as Hong Kong, Japan, South Korea, Macau or Singapore. STEM data suggests that strong mathematical competencies can be instrumental in escaping the middle-income trap.

Research on education and economic growth shows a correlation between both cognitive and non-cognitive competencies for individual earnings and careers. Important cognitive skills include attention skills, the ability to store and recall information (memory), logic and reasoning, the ability to analyse, blend and segment sounds, visual processing and the competency to perform simple or complex cognitive tasks quickly.

Relevant non-cognitive skills include motivation, effort, engagement, persistence or self-esteem. Without an inquisitive mind and focused attention, creativity (and thereby the courage to effect change) will be restricted. Curricula reviews can help to identify related gaps and mis-matches.

Creative skills are in high demand by employers who wish to hire employees "who can think outside the box". While I am convinced that everybody can be creative through individual nurturing, my experiences of confronting business students in the region with problems that do not have well-defined answers (which is one way of enhancing creativity in the classroom) suggest that more can be done to impart creativity skills into young learners.

Lack of intrinsic motivation, the pressure to conform and the fear to fail sometimes act as deterrents to greater use of one's imaginative speculation and originality.

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Learning by mistakes

Those who "win" are often those who excel in exams, and these students are unlikely to work in the creative industries which represents a key future growth driver according to US urban studies theorist Richard Florida. Educators can work against such trends by stimulating and rewarding curiosity, encouraging risk taking or providing opportunities for discovery. Mistakes are great learning opportunities!

For Asia's future creative class to rise, a new leadership paradigm is required, too, one which puts a premium on providing talent with meaningful challenges, sufficient autonomy, suitable resources (for example, attractive collaboration space to think outside one's cubicle), effective teamwork and plenty of encouragement.

Our studies at SMU indicate that a lot of creativity is lost in Asian business because it remains hidden in people's brains as tacit knowledge resource. While more and more organisations embrace the need to proactively manage creativity and innovation as exemplified by the recent "Neighbourhood Police Post for the Future" design competition (where tertiary students came up with new ideas about aesthetic NPPs) organised by the Singapore Police Force, the search is still on for (more) Asian equivalents of Google or Facebook, including their creative and innovative founders.

At the same time, we have to be mindful of not becoming addicted to all these new and convenient technological tools such as smart maps which might seduce us to rely on other people's brains rather than our own as this could really stifle creativity in both Asia and the West.

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