EDITOR’S MESSAGE

Any effort to improve our current situation and the well-being of our society is most effective when we acknowledge the existence of gaps: the divides between policies and implementations, the complaints of under- and over-resourced, the contrast between the haves and the have-nots, and other obvious and hidden gaps among generations, countries and societies. For this fourth issue of Think, contributors write about gaps they have observed — and the potential solutions to bridge these gaps.

Some writers delve into the realm of education: Shaireen Marchant suggests ways to improve early childhood education — by better understanding context through data and networks; Carmina Dalida and Gladys Malto highlight the significance of international collaborations in promoting STEM education in the Philippines; Dr Thanh Pham writes how Australia can enhance the employability of international students by supporting and encouraging them to utilise their own capital; and Leang Un, Lars Boomsma and Say Sok suggest how higher education in Cambodia can better serve the Cambodian society by re-examining the purpose of higher education, and by developing its unique discourse.

Dr Adha Shaleh proposes to use experiential learning to encourage compassion and to prepare young people to become global citizens in this digital age, while Kirin Heng writes passionately about fostering a more inclusive society through disability-centred arts.

Inequality is a form of gap itself. Tham Yin Yee argues that inequality, in manageable doses, can be useful in helping a country progress and prosper. Jix Sze shares a more personal story on how he addressed inequality and transformed himself through continuous learning.

Addressing a more general concern, Dr Norman Li examines the evolutionary mismatch humans are experiencing that has precipitated many modern problems. On the other hand, Manda Foo and Professor Paul Teng focus on the issue of food security, sharing their unique perspectives on both supply- and demand-side challenges.

We also had the honour of speaking to Professor Wang Yizhou, Vice Dean of the School of International Studies at Peking University, who shared his thoughts on how China is engaging with the rest of the world, and what role it can potentially play in the global arena. He believes there are gaps in both the region and the world China can help to bridge through its “creative diplomacy”.

Happy reading!
INSIDE THIS ISSUE:

3 Higher Education Reform in Cambodia since 1990s: How or What for? LEANG UN, LARS BOOMSMA AND SAY SOK

11 Evolutionary Mismatch: Getting to the Root of Modern Problems DR NORMAN LI

17 Experiential Learning in the Digital Age: Why it Matters DR ADHA SHALEH


32 Learning to Transform JIX SZE

35 Where Are the Youth in Agriculture? MANDA FOO

39 Food Matters PROFESSOR PAUL TENG

8 Be Limitless: The Future of Science Education in the Philippines Through International Collaborations CARMINA DALIDA AND GLADYS MALTO

15 Disability-Centred Arts as a Powerful Tool for Inclusiveness KIRIN HENG

19 Tackling Barriers: Enhancing International Students’ Employability in Australia DR THANH PHAM

29 Is Some Degree of Inequality Desirable in a Well-Functioning Economy? THAM YIN YEE

TThink EDITORIAL TEAM

C. D. Liang, Chief Editor
Melody Español, Managing Editor

Design Jermine Tan

For comments or contributions, reach out to us at TThink@headfoundation.org
This article is a summary of a chapter entitled "(Higher) Education Policy and Project Intervention in Cambodia: Its Development Discourse" from the yet-to-be-released book *Education in Cambodia: From Year Zero Towards International Standards*. 

THink: The HEAD Foundation Digest
Higher Education Reform in Cambodia since 1990s: How or What for?
LEANG UN, LARS BOOMSMA AND SAY SOK

The Cambodian education landscape has changed dramatically during the last 25 years. While at the end of the last millennium there were only a handful of universities and university students, Cambodia now has over 100 higher education institutions and around a quarter-million university students. What has not changed, however, is the neo-liberal agenda behind higher educational development. From the 1990s until now, educational reforms have been consistently informed by the neo-liberal thinking of international institutions and donors. These institutions believe that for Cambodia to turn into a modern, knowledge-based economy, its higher educational framework would have to satisfy the demands of the neo-liberal market. This development, however, has led to the obfuscation of another primary function of higher education: that of being a public forum. By simply being a vehicle catering to the needs of the market, Cambodian higher education has not developed its own critical discourse. Instead of focusing solely on implementation and measuring progress in terms of numbers, Cambodian higher education needs to develop an identity of its own. Having been elevated from a poor country to a lower-middle-income one, it is now the time for Cambodia to take ownership of its development. In order to do so, Cambodian higher education has to provide the institutional framework and conceptual foundation to address social injustice and generate the public goods for future generations of Cambodian graduates to be able to critically engage with neo-liberal discourse. That would bring sustainable and inclusive progress for all in Cambodia.

"What had been lacking altogether (especially up to 2014), however, was a distinctly Cambodian outlook on the ultimate goal of higher education."
approach. Up until 2006, higher education was not included in the strategic plans of the Ministry of Education, Youth and Sport (MoEYS). From the mid-2000s onwards, the ministry started more earnestly to formulate goals for Cambodian higher education. In the three Education Strategic Plans (ESP, 2006–2010, updated ESP 2009–2013, ESP 2014–2018) published since then, MoEYS has consistently maintained that educational reform in Cambodia should respond to the reality of globalisation and regionalisation and to the labour market demand and to immediate and long-term need of economic growth and the country’s competitiveness, which is a perfect carbon-copy and paste from the global neo-liberal beliefs.

What had been lacking altogether (especially up to 2014), however, was a distinctly Cambodian outlook on the ultimate goal of higher education. Several researchers have observed that the ESPs have been greatly influenced by outsiders as reflected in the overwhelming presence of foreign consultants and advisors. No less than 19.5–27.34 percent of the total budget for reforming education has been allocated to “technical assistance”, for example (Un, 2012). Even if this technical assistance was suspected of being unnecessary or dysfunctional, Cambodia did not refuse it, leading to a proliferation of ill-informed foreign consultants visiting on short-term contracts (Un, 2012). Taking the neo-liberal development discourse for granted, these consultants principally focused on issues surrounding technical implementation, leaving fundamental questions concerning the raison d’être of (higher) education in Cambodia untouched. Since this international development agenda and strategy were well received by a majority of technocrats and politicians, it has dominated Cambodian educational policy-making and goes unquestioned. Educational reform on the ground has been derived directly from these ideological premises.

Fundamental questions concerning social justice and the public good are hence not addressed. There is, however, a real urgency for these questions to be taken up. While Cambodia has experienced tremendous economic growth (7 percent on average), the issue of inequality is growing fast. Economic progress thus far is gearing towards not only attaining economic growth, but also achieving broader national development.

However, the government budget is too limited to invest in such a mission. Support from foreign institutions have often hampered rather than supported the development of such a discourse. Programmes by the World Bank and Asian Development Bank, for example, have strongly contributed to the dominance of a neo-liberal development discourse within Cambodian higher education. Donors suggest reforming only areas such as “governance and finance” and “autonomy and accountability”, as Cambodian higher education produce qualified graduates to fulfil its unrealised industrial and capitalist potential, thus bringing about development. It is our belief, however, that such reforms could miss the mark. While privatisation, governance reform and financial transparency are all needed, they should above all be seen as means within a broader social-progress discourse. Changes in governance and finance are changes advocated by the reform agenda, but they do not constitute deep and fundamental change in terms of educational discourse. Especially until 2014, educational policy was made without adequately heeding the Cambodian context and taking adequate account as to how it impacts Cambodian society. We maintain, however, that one of the primary goals of higher education in Cambodia should be to facilitate societal debate. Instead of taking the neo-liberal development discourse for granted, Cambodian higher education has to give shape to a proper Cambodian social-progress discourse. It can only do so,

It is only recently that policy ownership has become more prominent on the political and policy agenda. Acknowledging the need to improve Cambodia’s low productivity to increase economic growth and development, thus trickling down to the rest of the population, the government has committed itself to strengthening and expanding the population’s technical skills. The specifics as to what technical skills are needed remain under-defined, however. Also, recently, the goal of higher education has been made more balanced, with the passage of the Higher Education Vision 2030 in 2014 and the Cambodian Higher Education Roadmap 2030 and Beyond in 2017. These two policies aim to gear contribution from higher education towards not only attaining economic growth, but also achieving broader national development.
however, if both donors and Cambodians themselves develop a different understanding of the role of higher education within the Cambodian society.

While the output of a qualified work force is undoubtedly one of its major goals, this should not come at the cost of neglecting Cambodian higher education’s role as a public forum. In order for Cambodia to take policy ownership and ownership in project-intervention formulation, it needs to be able to critically raise questions surrounding societal justice and the public good. Universities are to take the lead in this respect. They have to constitute what Jurgen Habermas calls “the public sphere”, an area in social life where individuals can come together to freely discuss and identify societal problems, and through that discussion, influence political action (Habermas, 1991). Co-extensive with public authority and other institutions, universities have to function as a space for public intellectual discussion and informed opinions, rather than driven by the neo-liberal discourse and global force to only produce skilled workforce for the global market. Cambodia needs its own marketplace of ideas. Not just “how?”, but above all, “what for?”.

It is nevertheless increasingly rare today to find a public sphere that has not been influenced by neo-liberal logics and policies. This can be seen in the rise of corporate culture at public universities: the institutional focus lies on managerialism to achieve and maintain efficiency and effectiveness rather than promoting academic intellectual inquiry and an academic culture of collegiality and esprit de corps. More specifically in Cambodia, this neo-liberal trend has fused with the politicisation of higher education. Both commercialisation and politicisation prevent universities from properly functioning as a public sphere. To re-orient public universities and to develop and shape what are genuinely its own national policy path(s), Cambodia needs to become the champion of its own policy and project-intervention formation. The current Cambodian neo-patrimonial state has to transform itself from being restrictive, reactive and ad hoc to being more “developmental”. (Pak, et al., 2007; cf. Evans, 1995; Evans, Dietrich, & Theda, 1985; Wu, Ramesh & Howlett, 2015) in thinking, planning and implementation. “Copy and paste” policy borrowing, with little contextualisation, finds an easy foothold in countries where the state has limited capacity, especially policy capacity (cf. Midgal, 2001; Evans, 1995; Sok, 2012; Portnoi, 2016). Cambodian state capacity, especially policy capacity, should be strengthened accordingly.

"Furthermore, the country needs local leaders at important societal institutions, especially at the public universities to meaningfully engage with public policy formation."
Furthermore, the country needs local leaders in important societal institutions, especially in the public universities to meaningfully engage with public policy formation. Policy debates at the state level should revolve around the ultimate goals of higher education and national development. Higher education policy, more specifically, should be re-oriented to produce graduates and products that not only to serve the economy, but also society at large. Only then could a just Cambodian society come into existence.  ■

Leang Un is the Dean of the Faculty of Social Sciences and Humanities, Royal University of Phnom Penh. He obtained his doctoral degree in Social and Behavioral Science from the University of Amsterdam, The Netherlands.

Lars Boomsma is a lecturer and programme coordinator assistant at the Faculty of Social Sciences and Humanities, Royal University of Phnom Penh. He obtained his master degrees in Philosophy and Literary Studies from Leiden University, The Netherlands.

Say Sok is an independent researcher; a lecturer of the Faculty of Social Sciences and Humanities, Royal University of Phnom Penh, and a senior research advisor to the KHANA Center for Population Health Research. He obtained his doctoral degree in political science, majoring in political economy, from Deakin University, Australia.

Education in Cambodia: From Year Zero Towards International Standards, edited by Vin McNamara and Rithy Chhem, will be available in 2019.


Science Education in the Philippines

The learner-centered science education in the Philippines has the ultimate goal to develop students’ scientific literacy, which will enable them to become participative citizens who can contribute to social, health and environmental issues. It envisions the students performing scientific processes and skills as a manifestation of their understanding of scientific knowledge. Also, the development of scientific attitudes and values is given equal importance to help students make sound decisions that can impact human lives (Department of Education, 2012).

Curriculum developers and science-education specialists collaborated for the enhancement of science education. The curriculum is organised into inter- and multi-disciplinary themes to emphasise the connections between science topics and other disciplines, for effective and efficient learning. In addition, highlighting the development of priority areas such as technology, industry and innovation can enable students to contribute to the community where they belong, and will eventually become useful to the country that they live in.

From Scientific Skills to Life Skills

Science education provides various means for students to comprehend how the world works systematically. It is the foundation upon which we can bank on our future, since it helps in the development of scientific skills such as observation, logical inquiry and rational judgment. In the long run, these skills can transform into essential life skills, which the students can use to make a living for themselves and improve the way they live.

The dynamic characteristics of science education in the Philippines proves that the Philippine government is working its way towards global competitiveness, and to enable students’ skills to be on par with the demands of the 21st century. Preparing students for 21st-century challenges is a priority, since the qualifications required for job seekers for the next 40 or 50 years are projected to undergo a paradigm shift. This means that aside from creativity and ingenuity, new skills are also required for the next generation workers to work with people from different parts of the world (Reed, 2007; Mizell, 2015).
In the enrolment data of higher education for the academic year 2017–2018, 1,120,623 students are enrolled in courses related to science and technology, which is about 37.5 percent of the total population of students in higher education (Commission on Higher Education, 2018). This percentage of the student population has the potential to be part of the future workforce and to be able to contribute to the country’s economic success.

Graduate programmes are also offered to improve the quality of the professional workforce. The Department of Science and Technology – Science Education Institute of the Republic of the Philippines provides programmes such as the National Consortium in Graduate Science and Mathematics Education (NCGSME) and National Science Consortium (NSC) that aim to enhance the quality of science and mathematics education, and improve the country’s global competitiveness through science, technology and innovation. The said programmes consist of 12 participating universities nationwide, which are collaborating to accelerate the production of experts and human resources needed in science and mathematics education, and in research and development.

Bridging the G.A.P

The world that we are living in is composed of a diversity of cultures, religious beliefs and ideas that each of us is trying to recognise and understand as a way of expressing high respect for one another. The academe plays an important role in building linkages between the classroom and the real world. Incorporating global issues in our lessons and breaking the abstract boundaries in our classrooms can help students develop global awareness, collaborative skills and competitiveness. Recognising the significance of collaborations will help to bridge the G.A.P: Global competitiveness, Acquisition of best practices, and Partnership.

Global Competitiveness

The idea of global competitiveness includes skills that will enable an individual to be personally and professionally productive in the community where he belongs and in the world at large. Some Filipino students have shown their high level of competence through bagging awards and recognitions from prestigious science competitions around the world, such as the International Biology Olympiad, International Earth Science Olympiad, and International Chemistry Olympiad. Aside from joining various competitions, the provision for active participation and collaboration through international internships fosters experiential learning in students. Through this,
students can apply their learning and share their knowledge with their campus community.

**Acquisition of Best Practices**
The research trend in science education is gearing towards pedagogical practices, which focus on a variety of theories of learning and understanding how students learn. International connections can help in the development of curriculum and academic programmes through adaptation of other countries’ best pedagogical practices. Since students’ minds are wired differently from one another, it is essential for educators to explore possible ways on how students can effectively learn. For example, teacher exchange programmes and attendance of international conferences can help educators develop new pedagogy ideas that can bring international perspectives to classrooms. On a personal level, working collaboratively can improve one’s self-confidence since one can compare and contrast ideas with other educators, and can easily point out room for improvement.

**Partnership**
Working with international institutions can enhance the scientific productivity of the country, and can provide more avenues for connecting the classroom to the real world. Project collaborations involving research trends and scientific innovations can improve one’s interest by sharing thoughts and ideas. Various institutions in the Philippines have established relationships with other institutions from the neighbouring countries in the Asia-Pacific region, and this can help a number of Philippine universities to increase their chance of marketing success in the global community.

**The Learners of Tomorrow**
As Rabindranath Tagore said, “Do not limit a child to your own learning, for he was born in another time.” Gone are the days that the opportunity for every student to learn is confined within the four walls of a classroom. Now that we are in the 21st century, students are expected to develop skills that can help them survive in the fast-changing world of work and in a knowledge-based society. In consonance with the goals of science education in the Philippines, the learners of tomorrow are expected to become “scientifically, technologically and environmentally literate, and productive members of society” (DOST-SEI and UP NISMED, 2011) through provisions of limitless ways of learning. Connecting local and global communities through collaborative efforts of educators and experts can help students attain boundary-less learning, and to make students recognise the bigger world outside of their own country.

---

**Figure 2:** Statistical data of enrolment in higher education for the academic year 2017–2018.

Source: Commission on Higher Education.

"Incorporating global issues in our lessons and breaking the abstract boundaries in our classrooms can help the students develop global awareness, collaborative skills and competitiveness."

---

**Carmina S. Dalida** is a graduate of Ateneo de Manila University, with specialisation in Biology and Science Education. She is currently a science teacher in the secondary-education level.

**Gladys Ann O. Malto** is an integrated science teacher in the Philippine Science High School Main Campus. She is also a graduate of Ateneo de Manila University from the Science Education Program.

---


“Too often in the modern day, we treat the symptoms of a problem caused by technology by throwing more technology at it.”
Humans have experienced an enormous amount of technological progress in recent years. Owing to this progress, we are globally connected and can instantly communicate with family, friends, co-workers and multitudes of strangers. We are increasingly sheltered from harsh natural elements, dangerous animals and deadly wars, and have an incredible array of medicine to treat whatever ills us. Our entertainment options now include thousands of satellite television channels and millions of video games and videos. Our food options are just as numerous. Transportation is so fast and easy that we can visit places and do business with people all around the world. Goods and services are becoming astoundingly numerous and accessible as they are increasingly provided by multinational corporations that enjoy economies of scale on epic proportions. Resources can be extracted at a faster rate, and machines can do a lot of what we used to have to do using our own physical and mental energy. Imports, exports and outsourcing make it easy to run successful companies and ensure consumers have the best that the world offers. We can now accomplish a lot more than we used to, and keep pushing the limits of what we can do.

Yet, all this progress is directly related to why we also have so many of the problems that we have today. Individuals in modern societies spend less time with family and close friends, and are often lonely and depressed. Individuals are chronically stressed, suffer from anxiety disorders, attention deficit and hyperactivity disorder from an early age, are dissatisfied with their jobs, their lives and their body image, and develop eating disorders and are quick to dissolve their marriages. Increasingly more people are obese, have diabetes, struggle with high blood pressure, and develop various cancers. Many people, including children, require medication to function normally and are addicted to alcohol, nicotine and other chemical substances, as well as social media, pornography and video games. At the country-wide or societal level, we are faced with the threat of nuclear war, pollution, global warming, water shortages, sustainability of natural resources, the environment and an increasingly ageing population that is not supported by the younger generations.

The Origins of Modern Problems

To understand the origin of these problems and the key role that technology plays, we must understand evolution. Evolution by natural (and sexual) selection is the process through which all living organisms are subject to and have developed. Our physiology as well as our psychology — the ways we think, feel and behave — owe themselves to millions of years of evolution. That is, our physiology and psychology are governed or largely influenced by genes, and the genes that somehow led our ancestors to survive and reproduce better are the ones that got selectively passed down over millions of years. Indeed, we have the physiology and psychology that we have today precisely because they were useful for survival and reproduction in the ancestral past.

Our psychology can be thought of as consisting of numerous highly specialised mechanisms or information processors that take very specific environmental cues as input and produce output in the form of thoughts, feelings and behaviours that are adaptive (leading to greater survival or reproduction). The problem, however, is that technological progress has occurred so rapidly in recent years that we are now living in conditions that our physiological and psychological mechanisms were not evolved to handle, much like cheetahs that roamed and lived for aeons in the Serengeti but one day awoke inside the confines of a zoo cage. In other words, the environment has become mismatched with our evolved physiology and psychology.

Mismatched Food

To illustrate, here is an example: Humans, like all other organisms, have always needed to obtain and ingest calories in order to live and function. However, not all things in the natural environment are edible and provide good caloric sources. In the natural world, things that have the most calories (and nutrients) include fruit, berries and honey. Those of our ancestors with genes that inclined them to find sugar tasty were more likely to eat these things (versus say, tree barks, grass, dirt and poisonous plants) and survive better than those who lacked...
those genes and thus, did not find these calorie-dense foods tasty. As such, people with these genes were more likely to live and pass down these genes and tastes to the next generation, who themselves were more likely to live and pass down their genes, and so forth.

In the modern world, however, technology has eliminated the need to search for ripe fruit or the occasional patch of honey, by enabling us to mass-process sugar into potent forms (e.g., high-fructose corn syrup). We now have things like soda, candy bars, cake, etc., that are cheap, available and loaded with unnaturally high levels of sugar, and that are strongly favoured by our ancient calorie-obtaining mechanisms. So much so that our insulin and glucagon mechanisms, which evolved to regulate energy obtained from the sugars that people consume in natural environments, get overloaded and give out, leading to diabetes — a condition not found in traditional hunter-gatherer societies.

Mismatch-Induced Low Fertility

Another modern issue is one that I have been researching recently with my collaborators: why is fertility so low in Singapore, Thailand, all of East Asia, and parts of Europe such that local populations are shrinking? How could this be when evolution is all about successful reproduction? As with all modern phenomena, it is instructive to view this issue with a mismatch lens. There is a biological framework called life history theory that explains how all organisms have evolved to expend their time and energy based on various environmental conditions. When conditions are more favourable for reproduction (e.g., low population density, abundant resources), organisms will expend more energy on reproductive activities (e.g., finding mates, mating). When conditions are unfavourable for supporting reproduction (e.g., high population density and competition, limited resources), many organisms will shift their energy expenditure away from mating and more towards investing in one’s growth and resources so that when conditions improve, they will be in a better position to reproduce.

In the modern world, however, conditions such as social competition are only getting more intense and do not appear to be abating. Thus, people’s ancient reproductive timing mechanisms keep getting them to further slow down and delay reproduction, even though in the modern world, most people who delay reproduction are capable of having children. That is, reproductive timing mechanisms are calibrated to conditions that were reliably associated with reproductive success in the ancestral past, not the technologically enhanced modern world. So, a person who lives amongst a population of millions of strangers, works indoors in surroundings devoid of natural elements, competing globally around the clock for compensation that cannot be seen, would be correctly assessing that current reproduction is a bad bet if that person were in the ancestral environment, but not in the modern one. We have this mismatch because environments have changed too fast for psychological mechanisms, including those governing reproductive timing, to evolve and adapt.

Mismatch is Extensive

If we apply these principles more broadly, we can see that evolutionary mismatch is ubiquitous and underlies much of the unique difficulties of the modern world. Consider the workplace. Throughout human evolutionary history, men hunted and women gathered plants during a few hours of the day. Now, however, men and women do similar work, often side by side, in indoor offices, using computers and other machines. Although human stress systems were designed mostly to respond to fleeting, immediately pressing threats like a tiger or snake, they are now chronically engaged through multitasking around the clock, and having projects that take months or years to finish. We spend very little time outdoors and have increasingly less time to relax and spend in the actual presence of family and friends. As such, the mismatched workplace contributes to Vitamin D and serotonin deficiencies, high blood pressure, job burnout and conflict.

At a worldwide level, sustainability is an issue — resources are being drained at an alarmingly fast rate that, according to many sources, is exceeding the rates at which they can be replenished. However, it is not easy to enact sustainability practices because humans did not have a need to conserve and be mindful of such issues until relatively recently. Throughout human evolutionary history, people consumed as much as they could of the available local resources and moved to a new location if they had exhausted all the resources. Populations were fairly small and technology rather minimal, so this way of living was largely sustainable. Thus, humans did not have the need to evolve a conservation mindset or to think about the greater good of the world or future generations.

This is not to say that sustainability and other modern problems are unaddressable or that humans are incapable of thinking unselfishly or over a longer time horizon, but that such thinking does not come naturally for most people and thus, such problems are not so easy to fix. At any rate, the best solutions for addressing a problem are made possible when we understand its root cause. Too often in the modern day, we treat the symptoms of a problem caused by technology by throwing more technology at it. This has the effect of causing further problems while simply relieving symptoms for the short term.
Depression, for instance, is a natural response to the permanent loss of something valuable, including a loved one, resources, or an important goal. Depression’s pain likely evolved to induce individuals to slow down, mentally let go of whatever it is that they have lost, and sometimes to understand their circumstances better.

In natural settings, depression typically clears up within weeks or months, and rarely ever lasts more than a year. In the modern world, however, anything that resembles depression is often treated with antidepressant medication. While such medication has undeniably helped many people (some of whom were likely afflicted with the kind of severe depression that is brought about and sustained by mismatched conditions), it is also the case that for many individuals, long-term usage of antidepressants can cause the brain to decrease its natural ability to produce neurotransmitters in order to offset the large exogenous amounts coming from the medications (neurotransmitter levels are regulated by homeostasis-maintaining mechanisms). This process induces individuals to become increasingly resistant to anti-depressant treatment while also becoming psychologically worse off than when they started the treatment. As such, it has been suggested by some evolutionary psychologists that antidepressants be used more as a last resort rather than a first-line treatment.

Concluding Remarks
In summary, we are living in a technologically savvy modern world where rapid progress has brought about many advances, but also many changes to our environment, at a historically unprecedented rate. The ever-changing environment is mismatched with our physiology and psychology, which evolved to function in contexts that existed throughout ancestral times. Thus, as we continue to push for rapid progress and social change, there will necessarily be side effects, negative repercussions and unintended consequences as our systems are pushed beyond what they were designed to handle.

Although I have made the point that mismatch is implicated in most, if not all modern problems, it is important to clarify that not all problems are modern and thus, due to mismatch. For millions of years, humans have struggled along many dimensions just to survive, and have only recently started enjoying the kind of leisure and luxuries that we now have access to. Yet, at the same time, psychological mechanisms had evolved to deal with natural, ancestral environments and do not have infinite flexibility to deal with all the novelty that is being introduced into the world and our lives. Understanding and addressing mismatch is particularly important for the future functioning and well-being of Singapore, which is on the leading edge of the digital age, and the rest of the Southeast Asian region, where technology and lifestyles are quickly progressing and modernising.

Dr Norman Li is an Associate Professor of Psychology at Singapore Management University, where he has been designated as both a Lee Kuan Yew Fellow and Lee Kong Chian Fellow. His research interests include mate preferences, mating strategies, economic psychology, and evolutionary mismatch.

Recommended Reading
Disability-Centred Arts as a Powerful Tool for Inclusiveness
KIRIN HENG

What does the idea of disability bring to your mind? For most able-bodied people, the thought of disability is not pleasant, and one clouded by fear. However, this is far from a productive, helpful way of thinking. In reality, disability is just another aspect of human existence. In August 2017, I travelled to Hong Kong and observed Bellini Yu’s work with i-dArt and her group of artists at Tung Wah Group Hospital. Subsequently, motivated by my observations from i-dArt, I attended the Arts and Disability International Conference in Singapore this year. From this, and my subsequent experiences of working with visually impaired people for a research project, I began to understand that both people with and without disability have much to gain from art that is centred on the experiences of disability. The arts can be used to unlock the potential of people with disability as well as to increase their visibility in society. It is therefore a medium to nurture a caring society, one that caters to a broad range of diversity.

In the field of aesthetics, artwork by disabled people is valued for its creator’s ability to see the world through a different set of experiences, such that it is more “authentic” and unique. Such art is termed “outsider art”, the first historical example being the curatorial work of art historian and psychiatrist Hans Prinzhorn. His collection of artworks by the inmates of a psychiatric institution is an important reference for artists as prime examples of art brut (“raw art”).

During the True Colours concert, which was held as the closing act of the conference in Singapore, such raw authenticity could certainly be admired in many of the performers. For instance, Wheelsmith (real name Danial Bawthan) rapped with great intensity about the sense of exclusion he has had as someone who is wheelchair-bound in Singaporean society, so intensely that one could not help but feel affected. I must admit that I teared up when watching the wheelchair dance troupes, Srisangwan Chiangmai School, and We Are One from India, and an international group of b-boy dancers called ILL-Abilities who have limb impairment and who spun around so much that it seemed they had wings. Aside from the talent of all these performing artists, there was something more, something unique, that kept the audience on the edge of their seats, cheering at every difficult feat achieved onstage. But disabled arts should not be merely prized for its ability to challenge societal and aesthetic norms, and for its “difference”.

While the performers at the True Colours concert were indeed world-class talent, in general, audiences watching “disabled” casts perform are more easily impressed than when watching able-bodied casts, mainly because they are not represented enough in mainstream media. This sense of being differentiated by disability rather than their capabilities, and held to often lower standards, is something many disabled artists feel uncomfortable about. Furthermore, Kate Hood, Artistic Director of Raspberry Ripple Productions, a theatre company that works with disabled actors, argued during her keynote speech at the conference that what benefits the disabled community is not arts based on sympathy towards the disabled identity — but representation in the mainstream arena of arts. Why not a King Lear performed by an actor who walks with a crutch, or uses a hearing aid? Disability could add dimension to a role, especially in industries notorious for miscasting able-bodied actors into roles of disabled characters. The concept of a festival that showcases only disabled artists is driven by the need to increase awareness and give these performers a chance to showcase their talents. It is necessary to push in this direction until the goal of making the presence of disabled people in any industry a norm has been reached.

The keyword here is representation, and it is vital to the sense of self-identity disabled people have. This concept finds greatest resonance with the affirmation model of disability. It differs from the more dominant model of disability, which sees it as a tragedy or a problem, and often approaches it with sympathy, perhaps borne out of a collective personal fear that this may also happen to one who is able-bodied. Contrary to this pessimistic view of life after disability, members of the disabled community live full lives, and often have more time and energy to pursue passions like the arts due to not needing to conform to society’s requirements.

Representation in the arts by disabled artists is important in order to show that the disabled identity is not an “Other” to the norm; there is no such thing as the norm. Instead, there is a spectrum of bodies in terms of (dis)ability. The power of the arts to represent disability (in terms of disabled experiences and disabled artists) in turn would help disabled people assert their sense of identity, and create more understanding and acceptance within society at large. Over time, a more compassionate society could emerge, in which...
flexibility and understanding for the individual are upheld rather than rigid requirements assuming the able-bodied as the norm. The acceptance of other kinds of diversity, such as of race, religion and gender would be more likely in such an atmosphere of empathy. Jo Verrent, founder of Sync, a UK-based leadership-development programme for disabled people, reasons that leaders with disabilities will be more understanding of the different needs of their employees, resulting in better work environments.

The work that Pete Sparkes does in Drake Music Scotland and Bellini Yu’s work in i-dArt are inspiring models of affirmative art practice for the disabled. Sparkes works with young musicians with disabilities that make it difficult for them to use conventional music instruments, such that they used specially designed music technologies to perform as the Digital Orchestra at the True Colours concert. Yu has developed a three-year-long art development programme catered to intellectually and physically disabled patients based in Tung Wah Group Hospital. For each participant-artist of either programme, a sense of pride and self-fulfilment is derived through artistic creation. At i-dArt, students have multiple opportunities to showcase their work to the public via exhibitions. Drake Music also often performs for the public. Moreover, the arts have great potential as a pedagogical tool for disabled youth with special needs. Key to this is the guidance and patience of teachers broad-minded enough to provide students, regardless of ability, with a holistic education using the arts as a medium and method. Such an education could package vital cognitive and social skills to be more relatable for special-needs students, using artistic processes and participation rather than didactic teaching.

Society has a long way to go in terms of inclusiveness. The arts has a long history of appealing to the empathetic organs of humanity; thus it has the potential to be one of the best tools to combat the fractures society faces nowadays. This could be done by redirecting resources towards the practice of arts by people with disability, allowing those with disabilities to have leadership positions within the arts industry, and ensuring that disabled artists are given sufficient representation. In this way, there will be a brighter future for a society ruled not by a desire to fit into the “norm”, but by compassion and acceptance of people other than oneself.

"The keyword here is representation, and it is vital to the sense of self-identity disabled people have."

Kirin Heng is a Research Master’s of Arts student at Utrecht University and works in community arts. She is interested in the potential of the arts to transform society through incremental change, especially with regard to issues that are not addressed by societal institutions.
Experiential Learning in the Digital Age: Why it Matters

DR ADHA SHALEH

The Truth About the Digital Age

There is much talk that the world is moving into the digital age. I think most of us are aware of nations that have started to invest in “digitalising services”, from transportation and agriculture to finance and education. Indeed, what technology has to offer to future generations is enormous. By 2020, The Internet of Things (IoT), for example, will have a global economic value ranging from US$1.9 trillion to US$7.1 trillion. Mastering technology is vital for national development and keeping up with it is only the beginning.

Before going any deeper, I would like to add a word of caution that while embracing technology is going to give industries and customers an edge, it is worth remembering that technology is only a tool to aid lives and is not the means to develop humanistic traits (e.g., empathy, compassion, tolerance). The latter is actually the lynchpin of ideation, problem definition, and perhaps philanthropy. Hence, the “adapt or perish” philosophy in the digital world only works when technology development has longer lead times. Unfortunately, I have yet to hear of a country that is ready to fully harness digital technologies today. In this knowledge-based society though, much is still required for students to master communication, leadership, critical thinking, soft skills, and emotional, cultural and ecological intelligence. These traits, and others like them, in my view remain at the forefront of the digital age. So, to master them, experiential learning is a process worth pursuing.

Experiential Learning

As a body of theory, the core of experiential learning draws from diverse fields in humanities and the social sciences. As a foundation, learners from those fields are taught to view people as structures that are made of norms, values and behaviours. In community-based activities, for instance, learners are taught to engage locals and listen to their ideas, instead of coercing them to accept what might generally be considered popular ideas. In a similar vein, but with a more research-oriented approach, field-based learners employ “exploratory methods” in order to understand people and their perspectives on social issues. During the research, initial interviews with people, or engagements with stakeholders, can be seen as a positive platform to increase the nation’s stock of social capital. This exploratory method is critical for students to flourish in the 21st century. How can students experience this type of learning?

Countless Opportunities in the Digital Age

Students in the digital age have become more involved in social-development initiatives such as eco-friendly projects, global volunteering projects such as teaching kids in neighbouring countries, online crowdfunding platforms and so on. In addition, these developments have resulted in intra-regional mobility as many have joined international exchange programmes, honing their skills by getting involved in social causes. The benefits accrued and experiences gained from getting “their hands dirty” will gradually develop their values and perspectives. Such mobility demonstrates that there are committed global citizens who are determined to change the world. They are willing to move out of their comfort zones and leave their homes; exchanging views during foreign cultural exchanges, and at some points, immersing in it to accomplish their social goals. Flourishing from such an open interaction in society is reciprocity, bonding and respect. It allows students to calibrate and recalibrate after realising the richness of traditional wisdom and communal values in other societies. In other words, experiential learning can give students opportunities to create synergy with the many lives they encounter.

Age of Exploration

Poised to enter the workforce soon, today’s learners are also entering a period of exploration. Gone are the days where they simply learn; they also have to seek out and even create their own opportunities. Harnessing talent in this age must start with developing highly skilled and knowledgeable individuals, who can improve social problems;
young individuals with a “can-do” spirit, aided by their technical competencies, talents and entrepreneurial skills. Innovation in the digital age is driven by energetic start-ups, socially motivated entrepreneurs, and in large part by the native digital generation.

To inspire students to improve the society they belong to, a platform that boosts design thinking and critical thinking should be continuously developed, with a particular focus on Southeast Asia. I believe that experiential learners have to understand the passion and vision of the people in this region. How they work and what they have done to move forward are living templates for today’s generation. With that in mind, I think learners need to consider the rich cultural context of the region.

Moving Forward
Experiential learning aligns neatly with 21st century education. I envision 21st century education in terms of its core idea of preparing society’s leaders for the digital age. Its vital role in current education is evident, given that more industries are hiring students with comprehensive 21st century skills.

Even with opportunities presented by the technological revolution, there are still ongoing negotiations between people in the workplace. Human intervention is still needed in “crowdsourcing” ideas from stakeholders, community and business leaders. Thus, experiential learning in the digital age is particularly important because much its methods offer many avenues for collective action.

It is likely that interest in experiential learning is reaching new heights because of growing demands for fresh perspectives, community-centred activities, collaborative partnerships with industries, and progressively developing trust among key stakeholders. Therefore, higher education should step up to increase engagements and partnerships with key stakeholders in education. After all, they likely emerge from the generation native to the digital age.

Dr Adha Shaleh is a research fellow at the International Institute of Advanced Islamic Studies (IAIS), Malaysia. He believes that community engagement should be valued highly in education.

1 Communication, bonding and engagement between researchers, learners and people or citizens have already been proven to foster trust to collaboratively address issues in society.

2 I am aware of other skills but for this article, we focus on the following 21st century skills: language, civic literacy, global and cross-cultural awareness, and technology.

3 An example is students cooperating with local beneficiaries for community-based projects.
International education is big business in Australia. Australia needs international students in order to run their universities and also to fill the gap of highly skilled workers in the labour market. The country has implemented various immigration policies to recruit international graduates. The process started with the liberalisation of the study-migration pathway in the late 1990s with the intention of allowing international students to apply for permanent residency if they obtained local qualification. However, a large number of international students failed to find employment, mainly because of inadequacies in English proficiency and soft skills. To ensure a better employment rate among international graduates, the government then launched the employer-sponsored migrant policy. Unfortunately, very few employers are willing to be sponsors because of complicated administrative procedures and extra training. The Australia government has reinforced the employment of international graduates by launching the National Strategy for International Education 2025 in April 2016, which emphasises the need for relevant local communities and industries to be more engaged in supporting fieldwork by international students so that they can benefit from hands-on experiences.

From the side of higher education, Australian curricula and pedagogies have been revised to embed attributes that are believed to match employability skills expected by industries and employers. Common attributes are communication, critical thinking, creative thinking and teamwork. This agenda is a “must” because both the government and accrediting organisations make it a requirement that universities must show how their students are learning the skills and attaining their claimed attributes. Employment success rate is now used to gauge the quality of higher education. One significant condition of assessment for public funding requires Australian higher education providers to demonstrate how they are engaged in embedding graduate attributes in their courses and programmes. The government makes public funding for universities partially contingent upon demonstrable graduate outcomes, with an emphasis on the production of “work-ready” graduates who are competent within their disciplinary fields, and possess the abilities necessary to negotiate a world of work that is in constant flux. The emphasis on judging the quality of education through graduate employment is also shown in the establishment of the myUniversity website (http://myuniversity.gov.au/) by the Federal Government in 2012, with the purpose of collecting data about the number of graduates in full-time employment in order to rate Australian universities.

There have been, however, lots of arguments about the effectiveness of the attributes agenda, especially in the case of international students. This is because it is hard to interpret these attributes. How people understand the attributes depends on their background, expertise and position. Understanding these attributes is doubly hard for international students because they come from different backgrounds with different cultural values. For example, international students are often perceived as “not active”, “unconfident” and “not critical”. Workplace supervisors see Asian employees as being disengaged because they do not ask questions. However, Asian students tend to think that asking many questions is not necessary because it means challenging people — a sign of disrespect. Moreover, no matter how much international students could improve these attributes, they are still disadvantaged in the labour market when they have to compete with domestic students. For instance, it is impossible for an international student in education to compete with domestic students to apply for a teaching job at a mainstream school because English is still their second language.

More problematically, the implementation of the graduate attributes process is mostly hindered at the academic level. This is because such attributes are often seen as extra skills and qualities that students need to achieve beyond their discipline knowledge. Therefore, academics
often see this task as additional work, on top of their main duty, which is teaching disciplinary knowledge, leading to their lack of seriousness in working with their students to achieve attributes. Furthermore, a common issue is that even if academics take the graduate-attribute approach on board, many of them do not have the capacity to be able to teach and assess the attributes. This is a big concern for “hard” disciplines such as STEM because there still appears to be an emphasis on the acquisition of content knowledge, at the expense of more work-relevant skills and capabilities applicable to real-life settings.

Tapping into Resources

So what should be done to better prepare international students for employment? Recently, more attention has been paid to how international students could utilise their own capitals in managing their employment. These arguments have evidenced that international graduates tend to be more successful in the market where they can use their own cultural and intellectual resources. They have succeeded in securing positions in which they could work with clients from their own country or finding a job in their own community. For instance, many Chinese graduates have found a Mandarin teaching position instead of a general teaching position. Similarly, many international students have secured jobs in global companies where they are in charge of clients from their home country.

Australian universities also need to take into account the fact that the development of emerging markets in Asian countries such as China, Vietnam, Korea, India and Malaysia is leading to “reverse mobility” — the phenomenon of a significant number of overseas Asian students returning to home countries to seek career-development opportunities. China represents this trend very clearly because around 70% of Chinese students overseas have returned home. This phenomenon is situating “Western” education in a new position where there is the need to prepare students with skills and knowledge to succeed in both host and home countries.

As a researcher who has been working in intercultural education and graduate employability for many years, I would think it is time for Australian higher education to work on the following initiatives:

• Curricula and support services need to assist international students to tap into their own markets and capitals. International students should be advised about where their own market for jobs would be so that they could invest in exploring the market and developing connections with business and industries in that market. It has been well-evidenced that social networks and relationships are important in applying for jobs in every labour market, including Asian countries and Australia.

• Australian higher education needs to prepare international students for employment not just in Australia but in their home country and a third country. Knowledge and skills embedded in the current programmes need, therefore, to be more internationalised and globalised so that international students can be kept updated with what is happening in other contexts. Returnees have been found to be disadvantaged in their home countries due to their shortage of understanding about the local markets.

• Australian universities also need to be more engaged and strategic when placing international students in internship programmes. International students need to be provided with guidance on being strategic about where to do their internships. If they plan to return, they should find opportunities to take internships in their home country and not in the host country.

To sum up, enhancing graduate employability is a priority in Australian higher education. Although efforts have been made at various levels, a concern is that Australian higher education is still applying a “one-size-fits-all” model in teaching and providing services. International students have been evidenced to be able to use their own resources and capitals to succeed in studies in Western institutions. It is timely to draw our attention to how this cohort could utilise their resources in managing their employability so that we could develop programmes and services that enable them to tap into their strengths.

Dr Thanh Pham has been working in higher education for 10 years. She is currently heavily working on graduate employability and has conducted research in many Asian countries. Her research explores strategies that graduates utilise in different contexts to manage their employability and how this informs the development of pedagogies and curricula in higher education.

“Recently, more attention has been paid to how international students could utilise their own capitals in managing their employment.”
The Diplomacy of China 3.0: How to Be Creatively Involved in World Affairs

An interview with Professor Wang Yizhou, Vice Dean of the School of International Studies, Peking University

The HEAD Foundation invited Professor Wang Yizhou, an expert in China’s diplomacy and international relations, to visit Kuala Lumpur and Singapore in July 2018 to have an exchange with local academics and the public. TThink spoke to Prof Wang regarding his views on China’s diplomacy in Xi Jinping’s era.
How do you define China 3.0? What are the characteristics of its diplomacy?

China has undergone three historical stages since 1949. The three stages have distinctive characteristics, not only to the Chinese people in terms of domestic development, but also to the outside world through China’s diplomacy.

The first 30 years of the People’s Republic of China was a period of development under the guidance of the Yan’an revolutionary spirit. I call it “China 1.0”, or “Mao’s era”. Its most important mission was to end the warlord chaos and the internal division caused by the infiltration of foreign powers during its civil war, and to free the humiliated Chinese nation from shackles and lead it to stand among other nations. During this stage, China constantly fought against the world powers, i.e., confronting the Western world led by the United States, and later on breaking up with the Soviet Union. The Philosophy of Struggle ran through the whole duration of this period, and eventually developed into a far-left route characterised by revolution and self-revolution. It reflects the characteristics of the era of national liberation movement from the 1950s to the 1970s, and also bears the profound imprint of the Soviet Union’s Leninist model. Mao’s revolutionary thought has its positive significance and its historical limitations. The biggest shortcoming is that the vitality and social diversity of China’s economy during the first 30 years of the founding of the People’s Republic of China have been severely suppressed. In terms of diplomacy, China’s foreign relation practices and concepts during this period had gradually deviated from the Five Principles of Peaceful Coexistence jointly advocated by China, India and Myanmar. The relationship with then-existing international system had become increasingly tense, and there had been little involvement in the wave of globalisation, information revolution, and technological advancement that has arisen since the Second World War.

The Reform and Opening-up initiated by Deng Xiaoping in the past 40 years represents “China 2.0”. It steered China into modernisation with drastic economic growth. “Farewell to the revolution, embrace development” is a simple but quite appropriate statement. The greatest achievement of this period is that China’s per capita income rose from a very low level to the mid-tier, and China has become the largest emerging market and the second largest economy, which has contributed to the prosperity of the world economy. In international relations, China normalised its relations with the US and returned to the United Nations, reached troop-withdrawal agreement with the Soviet Union, established formal diplomatic ties with South Korea and Israel, and took over Hong Kong from the United Kingdom. China’s role has been undergoing profound changes from a revolutionary leader to an active participant in international matters. China has become more familiar with various forms of international exchanges and win-win cooperation, and gradually moved from the sideline of the international system to the centre stage.

The version 3.0 of China emerged against the backdrop of Reform and Opening-up. It is an upgraded version of Deng’s era, and it has a new set of goals, which is partially reflected in the grand ambitions of the 19th National Congress of the Communist Party of China. Yet, China 3.0 is still evolving and full of uncertainties, just like in Xi Jinping’s own words: “China is climbing; if it does not advance, it will slide.” With its great economic power and rising influence over international matters, in my opinion, China has two paths to choose from. The first path will lead to a new round of progress in global governance. In this scenario, China will continue its domestic reform to upgrade its economic structure, and to accelerate the pace of political modernisation. To the international community, China will provide more public goods and services, and actively cooperate with other countries for mutual benefits. Under the existing international system, it will play a more

"Creative involvement is neither a political philosophy nor an international relationship theory, it is a kind of methodology."
constructive role in international affairs to guard its overseas interests while avoiding military confrontation with other countries. China will increasingly become a leading country in global progress and prosperity, which is a blessing to the world. The second path will lead China to a more conflicting relationship with the rest of the world. In this scenario, the new generation of Chinese leaders, leveraging China’s military and economic power, takes a tough stance or even start war against neighbouring countries in disputed territories, and engage in a fierce geopolitical contest with the world powers. China will face containment measures from the international community, which may halt domestic economic development and allow extreme nationalism and chauvinism to dominate domestic politics. When that happens, it will not only bring an end to China’s dream of revival, but will also be a nightmare to all mankind.

In the past few years, the tensions between China and Southeast Asian countries regarding disputed waters in South China Sea, seem to have increased. China has turned various reefs and islands into military outposts. Do you see that as a sign that China is moving along the second path?

These sovereignty disputes are leftovers of history between China and Vietnam, the Philippines, Malaysia, Brunei and Indonesia. According to my observation, many countries outside the region are more supportive of ASEAN’s position of resolving or easing tensions through multilateral negotiations, while China prefers “one-to-one” negotiations to avoid collective pressure on China.

To China, with its economic growth and military expenditure set to increase, it is logical to enhance its military presence on those reefs and islands that are under its control. Domestically the hardliners expect the government to take a tougher stance in claiming sovereignty over South China Sea, but the government is still seeking diplomatic solutions with these countries.

Any of these disputes have to be handled properly, or they may reduce the effectiveness of China’s diplomacy. However, crises sometimes could also bring opportunities for China’s “creative involvement” in foreign affairs.

No one can predict all the changes in the future. At this moment, China is at a crossroads. Which path it will take depends on the choice of its political elites and the shaping of the national mentality.

You mentioned China’s creative involvement in foreign affairs. It is the key concept in your Creative Involvement trilogy of books. The concept has also been adopted by the foreign policymakers in China. Can you please summarise this concept for our readers?

As I explained in the answer to the first question, China’s relationship with the world is evolving from passive adaptation to strong participation, proactive engagement and active leadership. This will not only bring about a new dynamic to international relations, but also requires profound transformation in China’s diplomacy.

Creative involvement is neither a political philosophy nor an international relationship theory; it is a kind of methodology. Its focus is not on values, but refers to a new optimistic attitude. China will be more actively involved in international affairs and play a better role.

Creative involvement should be implemented according to China’s true capability and in an all-rounded manner. It requires various governmental and non-governmental departments involving in diplomacy to participate more actively in regional and global affairs, to come up with more programmes, and to provide more public products and services to the international community. Meanwhile, the domestic agenda should continue to focus on reform and opening-up. Policymakers should ensure that China will not repeat Western history of seeking hegemony in the world, and will not impose its own will upon other countries.

While taking an active part in international affairs, China should pay more attention to constructive mediation and creative options, and explore and maintain such spirits as “seeking common ground while preserving differences”; “harmony in diversity”; “competition without confrontation”, etc.

Creative involvement is a new choice, which is in accordance with China’s new status of being one of the great powers in the world, China’s current stage of development and strength, as well as its culture tradition. It will continue to develop during the period of China’s peaceful rise, and gradually become China’s unique diplomatic style on the stage of international relations.

Talking of China’s peaceful rise, what are the misconceptions that the outside world has about China that you would like to address?

I would say most people now view China as a “strong” or powerful country. In my opinion, China is just a “big” country, in terms of land area and population, GDP, foreign exchange reserve, military expenditures, etc. It is fair to say China is a “global emerging power” or “the largest country in the developing world”.

In my opinion, China is not yet a “strong” or powerful country. The scale of being “strong” is difficult to define, but there are still clues...
to follow. The first thing that comes to mind is some of the gaps in China’s technological development. We are behind Germany in manufacturing; Japan in cutting-edge robotics; the United States in chip design, military technology and aerospace know-how; and the United Kingdom in engine design, pharmaceuticals and biology. In genetic engineering and microelectronics, we are also not quite as accomplished as Israel, Switzerland, Sweden, the Netherlands and Finland. In many of these areas, China is still in the middle and low end, and we are still a long way from being “big” to being “strong”.

When we examine the daily life of ordinary people, we also see huge gaps between China and many other countries, including countries with lower per capita income, in areas such as education, medical care, insurance coverage and other social services. Most Chinese cities today have a new and glamorous look; however, underneath the beautiful covers, you will see issues such as food safety, poor air quality, counterfeit consumer goods, etc. When the entire country is focusing on accumulating wealth, individual needs and rights in certain areas were neglected. A nation cannot truly be strong until its people have quality life and are in pursuit of happiness.

The contrast between domestic “insufficiency” and international “overvaluation” is worth reviewing and reflecting upon. Most people in China think that they are still not well-off and the country is still developing, and they feel that the government has provided too much aid to other countries. Many people from outside China feel that China is the biggest beneficiary of globalisation and had accumulated much wealth from it, and it is reasonable for a rich country to provide more foreign aid. On top of that, many Chinese people believe that China’s diplomacy is too soft and need a leader as tough as Putin. On the contrary, foreign countries generally feel that China has become tougher in recent years, and it is aggressive in diplomacy and military affairs.

I would say China is like a young man who just went through adolescence — he has an adult look and physique, but he is still growing and learning.

**What is your view on the Belt and Road Initiative? How will it affect Southeast Asian countries?**

One of the highlights of Xi’s diplomacy is the Belt and Road Initiative (BRI). It is a framework for foreign trade and economic cooperation.

Economically, it can make better use of the nearly five trillion US dollars of the Chinese government’s foreign exchange reserves; it can utilise the surplus capacity of domestic manufacturing for overseas
projects, which will ease the challenges of slowing domestic demand and sluggish growth. In the long-term, the government expects BRI to contribute to the transformation and upgrading of China’s economic structure — by transferring some of the traditional industries to countries that are in urgent need of them, while China develops the tertiary industry, financial services and high-end technologies.

Politically, China is hoping the promotion of BRI could strengthen its ties with neighbouring countries, reduce or even resolve some of the disputes, and gradually make China a core player and an important nation in the world.

While opinions have been mixed ever since the launch of BRI, the Chinese government is listening and learning in this process. An example is Malaysia’s east coast railway project — China has to deal with various stakeholders in a more sophisticated way, and use creative involvement with Malaysia’s new government to pave the way for the project.

In general, BRI is the beginning of a long-term rebalancing process in the world history. It is an adjustment of the global macro-political economy after hundreds of years of domination by the Western capitalist states. No matter how immature BRI is, and no matter how many twists and turns there are along the way, we should not miss the big picture and a new diplomatic trend.

What are your takeaways from these academic visits to Kuala Lumpur and Singapore?

First of all, I would like to express my appreciation to The HEAD Foundation for inviting me and organising the programme. I really enjoyed these visits and the exchanges of opinions and ideas with the local scholars and the public.

The visits also allowed me know the local Chinese community a little better. Even though the overseas Chinese have strong ties with the Chinese culture, the culture of the countries where they live is also part of their identity. We should remind our policymakers not to ignore this fact when it comes to foreign policy making.

The interactions with local academics have given me new insights. The issues they raised provided me with a new perspective. Their feedback on China’s diplomatic impact on Southeast Asian countries is very valuable, and I plan to incorporate it into my future work.
I used to joke that my academic friends who lived in London should be better researchers because their daily commute on the Tube would constantly remind them to “mind the gap”. Apparently, not all saw the humour and I have learnt to mind my gap since!

The Quality Gap in Early Childhood Education
Minding the gaps in knowledge and learning is a daily task all educators perform in their classrooms. In particular, the inquiry-based approach, popular in early childhood education, places strong emphasis on the process of learning, which requires teachers to be aware of children’s learning differences and interests. Reflection and documentation of classroom experiences are also common practices used to monitor learning quality.

Teachers often design specific activities that build upon children’s knowledge and these present opportunities for learning and discovery. This requires early childhood educators to be cognisant of children’s abilities observed through daily conversation, social interaction and activity tasks. Quality learning in early childhood involves “learning to learn”, which may be significantly different from content-driven approaches adopted elsewhere in the education system.

Although such approaches are developmentally appropriate and constructive for learning, it is heavily dependent on the skill and competency of the pre-school teacher. Without proper facilitation and support, delivery inconsistencies and subsequently quality gaps in practice could be expected. With the recent recognition of the long-term positive effects of quality early childhood provision, such gaps pose a grave concern for governments around the world.
Addressing “Quality”

In the last five years Singapore has invested heavily in the early childhood sector and efforts to uplift the field have focused on three main thrusts of improvement: affordability, accessibility and quality. Arguably, the implementation of well-funded policy initiatives and sound planning will enable the first two objectives to be achieved fairly easily. However, the same cannot be said for the attainment of quality objectives. Defining and achieving quality practice across the sector will prove to be a more challenging endeavour as it will require not just top-down support but also the commitment of the entire sector for sustainability.

Early childhood education in Singapore is provided by a mixed system of public and private providers, often dominated by the latter. This is also characteristic of the situation across the region. This distinction is significant as such partnerships in the early years sector prove to be inherently complex and can pose a challenge to the implementation process. Consequently, policy levers that have been successfully used to manage a centralised public education system need to be adapted to suit the unique workings of the early childhood field.

The need for such applicability was highlighted in a recent working paper on public-private partnerships in early childhood development in Mozambique and South Africa. Though such partnerships have the potential to facilitate progress for the industry, it also noted that a poorly designed and implemented initiative could have an equally negative impact on services. A key enabling factor would be to match the mechanisms to suit its context and environment.

The Challenge of Context

As a mentor to pre-school leaders, context matching has emerged as a concern in group conversations related to challenges in translating policy to practice. The extent of the diversity in cultures of practice as well as quality may also be far wider in reality. For one, early childhood centres vary greatly in size, environment and support. This can subsequently affect their ability to deliver quality programmes, especially when access to resources may be unevenly distributed across the sector. Levelling the playing field with regard to quality is a more complex endeavour when mixed delivery systems are the norm.

Nevertheless, the presence of strong policy levers may help mitigate some of the challenges in implementation. In Singapore, the Early Childhood Development Agency (ECDA) has adopted a clear structured approach to address quality by encouraging pre-schools to attain the Singapore Pre-school Accreditation Quality Framework certification or SPARK. This has enabled schools to focus their efforts to address different aspects of quality in operations. Nevertheless, such committed investments and policy initiatives may not be common across the region. State control and local variations can easily challenge any blanket initiative for improvement. To address gaps in implementation, policy design in the early years needs to address diversity as a principle of approach.

Developing a New Way of Working

Drawing from these experiences, I have tried to bridge my own understanding as a practitioner and researcher to discover “new ways of working” in an industry that is fast growing up. In my effort to encourage principals to apply strategic management practices for quality improvement, I have realised that there is a need to be “modality-sensitive”, in particular to the “language” and “method” of achieving quality practice in a setting that is largely non-corporate.

The diverse and highly dynamic work environment may also pose challenges for sustained quality improvement efforts. At present, manpower supply and quality is a common challenge in the field. Even though early childhood training may be more established in
Singapore than in most places within the region, attaining sufficient qualified manpower is a more fundamental issue than quality.

As this shift may take time, this gap presents an opportunity to experiment and learn new ways of managing quality in the sector amidst the current landscape. Presently, quality is driven in a top-down approach through the SPARK certification. Although this has been successful in driving change, it is also worthwhile to adopt other complementary strategies.

Small changes woven into current operations can create new habits of practice that will be beneficial for quality improvement in the long run. It may also facilitate a common ground for “languaging” and the articulation of ideas that can often be lost in the translation of policy to practice.

Some work approaches to consider in quality improvement:

1. Use a Data-Driven Approach to Understand Quality
   The data-driven approach for educational improvement appears to be more commonly used in the public school system than in the early childhood field. Although the usual challenges of time and resources may deter its use, the benefits of using an evidence-based approach outweigh such difficulties. A data-driven approach allows for objective decision-making based on information in practice.
   Using data to inform practice need not take complex forms and can be done as simple surveys or pictorial documentation. For example, it can be as simple as teachers noting play preferences among children by making a record of the frequency of use of different play equipment in the class. This can then lead to informing the choice of future play material to be purchased or how it can be organised. Teachers can subsequently use this information to create more quality play experiences for the children. Such data offer valuable information, which can inform practice directly and meaningfully. This presents a valuable source of information, particularly where local research data is often absent.

2. View Quality From a Holistic Lens
   A common paradox in early childhood education is that children’s holistic development is often upheld as a primary concern but the actual measures used to address quality gaps are often narrowed to academic indicators. The struggle seems to lie in the challenging task of articulating non-academic learning outcomes as equally important, if not more, critical development goals.
   Quality indicators also need to give fair consideration to the less visible forms of quality practice, such as emotional support, quality interaction and learning motivation. For quality to improve, the quality assessment process needs to be authentic, child-focused and flexible. The process of managing quality gaps necessitates greater conversation on expectations of quality as seen through the eyes of the community. Most importantly, to be a true process of improvement, the community as a whole, involving practitioners and parents, would need to be part of that conversation for it to be sustainable.

3. Understand Quality Through Network Sharing
   One of the least utilised resources for quality improvement in the early childhood field is the engagement of professional networks, which is still uncommon in this region. Such networks may be formal or informal but can serve as a resource of support for the sector. Those with a focus of interest can provide invaluable ground knowledge to address gaps in practice where research is lacking. Although such networks are more common in Western countries where advocacy and civic participation are well established, encouraging practitioners to be part of such networks is beneficial as there is interaction with professionals outside organisational lines. Participation in professional networks provides a safe platform for lifelong learning and for professionals to engage in constructive yet casual conversations, which can be an important source of moral and professional support. The sustainability and quality of practice are in the participation of all levels of community, and the intelligent expertise of such networks should be harnessed for its shared learning potential.

Looking Beyond the Gap
Ever the eternal optimist, I believe there is value in gaps as opportunities for the early childhood sector to innovate and move their practice forward. It is important that such efforts to bridge gaps adopt approaches that respect and build upon current structures. The early childhood environment is an exciting field of change and shares many of the issues faced by schools within the main education continuum. However, making small improvements with a recognition of the unique context of the early years will potentially help efforts to “mine the gaps” more effectively.

Shaireen Marchant is a PhD student at the University of Warwick whose research focuses on leadership in early childhood education from a policy to practice perspective. She also serves as the Lead Mentor for Principal Matters, a Lien Foundation-funded pre-school leadership development programme in Singapore.
A n ardent advocate for free-market capitalism, Friedman argues that some degree of inequality is desirable in a well-functioning economy; some degree of inequality is inevitable in a free-market economy; and income inequality in market economies was overstated (Friedman, 1962). The Prime Minister of Singapore, Mr Lee Hsien Loong, similarly agrees that income inequality occurs naturally in an economy and suggests its benefits as a form of motivation for life outcome improvement (Lee, 2018).

Some academicians suggested that people’s relative positions in income distribution do not matter; whereas absolute income matters to both the haves and have-nots. Friedman too argued that a lowly paid individual would still be better off in a market economy, despite positioned at the bottom of income and wealth distribution. Market economy increases absolute standards of living and hence, reduces incidence and extent of absolute poverty.

Opposing views suggest that individuals’ relative standing in the society and their perceived fairness of such standing are important psychologically. Knowledge of their position at the bottom exacerbates feelings of deprivation among the poor, even if absolute income is increasing. The awareness of wealthier others creates political misery which could escalate into social and political tensions (Milanovic, 2016). Pragmatically, inequality is relevant to policymakers.

**Inequality of Outcomes**

In a market economy, individuals are rewarded income proportionate to their contribution to the total economic output. Individual abilities to produce output vary according to factors of production, including labour, capital and land in their control, as well as their appetite for risk-taking. These individual differences result in unequal outcomes. Friedman argues that inequality of outcomes incentivise individuals to take on labour and risks that otherwise would not be taken.

The desirable inequality referred to by Friedman is inequality of outcomes, not inequality of opportunities. At the micro level, inequality of outcomes motivates individuals to improve their livelihood. Being perceptive of inequality is being self-aware of one’s current state and the state that other members of society are in, and forming an ideal state to aspire towards. Understanding the gap between the current state and the target ideal state helps individuals to formulate steps towards achieving it (Philips & Silvia, 2005). Friedman argues that this form of self-interest and greed collectively drives advancement and economic growth (Ro, 2012).

Inequality of outcome is also a product of meritocracy. Meritocracy operates by weeding out incompetent individuals and selecting the brightest who are then rewarded differentially. Meritocracy legitimises unequal outcomes with the underlying principle of fair competition (Tan, 2008). Again, the difference between equal outcomes and equal opportunities must be noted. Meritocracy and its unequal outcomes are seen as fair if every individual has the same opportunities for success.

If human behaviour and market forces inevitably result in inequality of outcome, is there a level of inequality that is optimal for or acceptable by society? While inequality sounds semantically negative as an abstract concept, when contextualised in numerical terms, people agree that inequality of outcome such as pay gap should exist. While most respondents demand for less inequality, they also simultaneously endorse some extent of inequality. The findings is consistent across 40 countries examined in the study, and across different segments of society, including the rich and poor, liberals and conservatives, and
across educational levels. In aggregate, respondents converged on an ideal pay ratio between the chief executive and an unskilled worker at 4.6 to 1 (Kiatponsan & Norton, 2014).

This ideal pay gap ratio is not a realistic one. Dairy company Ben & Jerry’s once adopted a compensation policy to cap its top-to-bottom pay ratio at 5 to 1. After 16 years, the company abandoned the pay ratio policy after it failed to recruit successors for its top executive positions (Weiss and Credit.com, 2013). The latest survey data show that on average, CEOs’ pay ratio in relation to the median salaried employee among American companies is at a stark 241 to 1 (Equilar, 2018).

While it seems that outcome inequality is to some extent tolerated, research shows that increasing inequality and the knowledge of it decreases motivation and labour productivity. When wages or pay distribution is made transparent, lower paid workers reported less job satisfaction and made less effort, whereas higher paid worker reported no additional job satisfaction and do not work any harder. Increasing inequality also has other negative effects. It impairs decision-making, reduces empathy and increases unethical behaviours. People at both ends of the distribution are more likely to take unwise risks and exhibit gambling behaviours. Perception of being richer leads people to be less empathetic towards others and exhibit less generosity. People who are paid both unequally high and unequally low are more likely to exhibit unethical behaviour and cheat (Norton, 2014).

Inequality of Opportunity
Opportunities are beyond an individual’s control, but actions taken to translate available opportunities into outcomes are within one’s locus of control (Arneson, 1989). Egalitarians suggest that people should not be held accountable against poor life outcomes that resulted from circumstances beyond their control. Modern egalitarians seek to equalise opportunities and suggest that society should identify and indemnify these group of people (Roemer, 1993).

Individuals should be rewarded for their own merit, and not inherited economic or cultural capital. In reality however, qualities that are valued in a meritocratic society often do not exist universally (Teo, 2018). These qualities often can be cultivated relatively more easily by the wealthier through enrichment classes, interpersonal connections, internship, etc. Meritocracy perpetuates inequality and discriminates individuals when inherent advantages and disadvantages of individuals coming from unequal backgrounds are not acknowledged and corrected. Opportunities must then be equalised before the meritocratic race starts.
Differences between opportunities and outcomes are murky, as inequality of outcome can transform into inequality of opportunity in the form of endowment and inheritance. A large part of inequality can be attributed to initial differences in endowment. The Epstein and Astell’s Sugarscape simulation illustrate how randomised small initial differences in endowments, circumstances at birth and luck combined give the emergent result of very skewed wealth distribution with a few super rich, a shrinking middle class, and a growing underclass of the poor (Beinhocker, 2006). While governments cannot (and should not) interfere in the freedom of transferring capital and wealth, they can intervene to narrow inequality of opportunities to ensure fair competition.

Addressing Inequality
Wealth and income redistribution policies are targeted at inequality of outcomes, not inequality of opportunities. Friedman contends that the economy is inherently unequal and proposed negative income tax as a means to redistribute wealth and alleviate poverty (Preiss, 2015). This involves taxing individuals earning above a certain income threshold and redistribute the amount as cash subsidy to individuals below the income threshold. The tax system suggested is progressive and does not disincentivise subsidised individuals from gainful employment. Milanovic proposed global redistribution to address global inequality by creating a global non-governmental agency to raise tax among the rich from rich countries and distribute them to the poor from poor countries in the form of cash grants.

The egalitarian planners on the other hand suggest the central idea of equalising opportunities while taking into consideration comparable degrees of responsibility exercised by individuals. Roemer suggests identifying sets of circumstances that are beyond individuals’ control and the associated indicators that reflect the degree of responsibility they exercised. Individuals within the sets of circumstances identified and who have exercised comparable degree of responsibility should be indemnified by society.

In the context of Singapore, the government attempts to equalise resources by providing quality education, affordable housing and healthcare, many of those targeted for the poor. Singapore’s Housing and Development Board for example, provides rental housing for the poor. Rental agreements are renewed every six months, with rent rises as income increases. On the flip side, this creates a sense of insecurity and reduces incentives for the poor to work harder and take on better paying jobs. Statements uttered commonly such as “Singapore is not a welfare state”, “no free lunch in Singapore”, as well as narrowly targeted, conditional state assistance schemes, carry strong negative connotations and signal to recipients that they belong to the very bottom of the society who cannot catch up — instead of regarding such welfare as their universal rights.

Conclusion
So, is inequality inevitable? Some degree of inequality of outcomes will ultimately exist in society. The government’s role then is to equalise opportunities as much as possible to ensure every citizen has a fair chance of achieving their desired outcomes. Interventions to equalise both outcome and opportunity should work hand in hand to sustain individuals in the short run and lift people out of the bottom rung of the society in the long run. Interventions to equalise opportunities and build human capital are more difficult to design and do not generates immediate results, but they should not be overlooked.


Tham Yin Yee is a Li Ka Shing Scholar and recent Master in Public Administration graduate at the Lee Kuan Yew School of Public Policy. She is also a Teach for Malaysia alumna and member of the Teach for All Community of Practice for Education Policy.
Learning to Transform
JIX SZE

Modern-day sociologists describe stratification in the form of socio-economic status (SES). SES measures a person’s position according to education, occupation and income, and together as a combination they form an indicator of that person’s socio-economic status in comparison to others.

The subject of stratification was much discussed earlier this year in Singapore and I followed it with interest. Hence, this led me to decide to share my story — through my own lens as someone who has been at the lower end of the status spectrum.

I hope that this will also inspire individuals to consider making personal efforts to improve their own social mobility. And that it will also encourage policymakers, academia, social service organisations and public members driven by altruism, to continue playing their part in equalising opportunities to support these individuals in levelling up and narrowing this disparity.

In January 2018, during my book launch speech, I quoted this famous saying, “Give me the first seven years of a child and I will give you a man.”

Sadly, for my situation it was dreadfully different; I gave seven of my adolescent years over to delinquency and heroin addiction. And in return it gave me a prospective wretched adulthood; so, in 1978, when I embarked on my new life at age 20, my future as an adult was bleak.

I only had a Primary School Leaving Examination certificate and my proficiency in the English language was poor. That dreadful period also cultivated my distaste for studying and tainted my mindset, and furthermore predestined that I continue being an odd job labourer. As a result, from the start I knew it was going to be a long and demanding journey in improving my socio-economic condition.

Over 40 years, among several gratifying things, “learning” played a significant role in the transformation of my life.

Learning Must Matter
According to sociologists, individuals cannot be blamed for social inequality because it is the broader system of society as a whole that forms and buoys stratification, so realistically disparity will always exist. However, one does not have to resign oneself to one’s lower socio-economic status as an inevitable and destined outcome — if one is willing and committed to work on his situation.

Many people generally believe that they can enhance their social standing with diligence in work and a good education. I share that belief except with an additional factor, which is learning to manage and live one’s life well.

Therefore, lifelong learning as it is aptly termed is not just about formal education and neither is it just an evident trail of paper credentials. Notably, it is also about other forms of learning (non-formal learning) like experiential learning and self-exploration, as learning engages one’s purpose in life as well. And through learning, a person’s value increases and likewise if he stops learning, his value decreases.
The landscape of this 21st century’s fluid and dynamic economy makes situations more challenging and demanding so that learning becomes even more important and consequently, learning must matter to an individual. And many things do matter in one’s life.

The learning I knew in 1978 had that simple consideration: learning must matter for it to be relevant to whatever I do if I want to achieve success in life. With that in mind, I set out on a learning and development journey. There were three obvious, immediate aspects that mattered and required learning and development.

**English Language Significance**

One aspect was the English language. Being at the bottom rung of society, it was easy for me to perceive language as an indicator that distinguished the different levels of social status and prestige. Back then, it was fast becoming essential when finding jobs and establishing a career. In daily communication, it helped me to achieve better interaction and integration with the rest of society.

However, most tellingly, it played a critical role in my acquiring of knowledge; without it I would not comprehend any of my learning for self-empowerment. Being able to learn and gather knowledge is fundamental as it equips me to discern and explain my own situations and challenges so that I can deal with them.

**Dealing With Change**

The second aspect was dealing with change. While I was willing in spirit, I was not convinced of my resilience. There was a worrying lack of confidence in my own capacity and capabilities to respond and perform under pressure and in the face of challenges. That trepidation was like a cliff-hanger; fearing I would relapse into my past, yet hoping that I would “bounce back” and even thrive in spite of the odds and demanding situations in my new life. Why that premonition? Perhaps I was feeling like an underdog in society.

Fortunately, I acknowledged the need to learn to accept change. I learned that I could neither change the world around me, nor have people change to meet my expectations. I can only change what can be changed and accept what cannot be changed. Over time, I became convinced that with change comes learning and growth and I began appreciating it as part of living, reducing one’s disadvantage and progressing in life. By my experience, the finest strategy in change is changing oneself first.

"By my experience, the finest strategy in change is changing oneself first."
**Purpose and Meaning-making**

The third aspect was learning to be driven by purpose and meaning in life. As such I began learning to set goals and take decisive actions in the pursuit of my purpose. Many of my goals and activities equipped me; for example, work and life skills, qualifications and especially my values and mind-set. Being driven by purpose helps me to envisage possibilities; it shapes my mind-set into being “hopeful and future-minded”.

In November 2017, in partnership with the Lifelong Learning Institute and SkillsFuture Singapore, I conducted an informative workshop on the topic of Corporate Social Responsibility (CSR). I advocated that CSR is not just for organisations but also for individuals to weave environmental, economic or social aspects and interests into their individual altruism.

An enduring altruistic intent that arose from my life transformation over the years is inspiring people to learn for self-empowerment; so I spend time giving talks and doing advocacy work.

And to further and appropriately measure up to my intent, in 2014, I studied for a degree to enhance my capability and qualification. Even though pursuing a degree has never been a goal for the longest time of my life, I heeded that need to change my perspective. Finally, in 2016, at age 58, I successfully earned a master’s degree in training and development.

Not every individual would feel excited or have the desire to learn even if a need exist, particularly even more so with formal learning that comes with the stress of assignments and examination. That’s why individuals deriving meaning out of their learning in relation to the things that matter are important, and that importance becomes their impetus to learn.

Even though I came from a family with a humble background, I was disadvantaged more by my irresponsibility. That exacerbated my situation and placed me in a low social standing. My socio-economic status has improved substantially now and the sense of being an underdog has long dissipated as well. Notwithstanding that, my learning continues, more so for me to measure up to my ongoing purpose and meaning-making in my life.

Learning plays a pivotal role in one’s life because it goes beyond acquiring qualifications, knowledge and skills. It brings hope as well and when an individual feels that there is hope he would be encouraged to aspire for a better life. Learning shapes and empowers that individual’s human spirit and provides wisdom and direction, thus future-proofing his life.

With various well-intended avenues of support available and a willing and committed self-effort approach, I believe an individual can learn to transform himself or herself.

---

**Jix Sze** is managing partner at Jix Sze & Partners LLP (Inspiring Learning for Empowerment), which offers inspirational talks, training, learning and development consultancy for different sectors, including the early childhood education sector. He authored *Chasing the Dragon Out* – an inspiring story of a drug addict’s altered destiny.
A sensible approach to address young people leaving the industry is hence to support and retain family farms.

MANDA FOO
Is Agriculture a Sunset Industry?

It is plain to see — on sojourns around rural areas — that farms are fast losing young people to cities. Demoralised by falling commodity prices and squeezed by diminishing margins, the “professional” farmer has little to depend on but his love of the land on bad years. Farmers themselves encourage their children to leave their farms as soon as a national road reaches their village, choosing the gamble between urban opportunity and poverty over a life of labour and toil.

With the average age of farmers worldwide fast approaching 60, one of the key challenges in keeping agriculture sustainable is getting young people to remain on their family farms, and attracting new talent into the industry. A 2013 census conducted by the New Zealand government found that the average age of farmers was 47.7, compared to 43 for journalists, 41 for vets and plumbers; 33 for web developers and 22 for bar attendants (Deavoll, 2015). In the developing world, the trend is even more acute. In China, for example, the average age of farmers is believed to have risen as much as 20 years in the last half century from 35 to 55, with 55% of China’s farmers being above 40. China’s rural population nearly halved since 1960, falling from 84% to 44% in 2015, according to World Bank data, with the majority of rural inhabitants flocking to its fast-developing cities as low-skilled migrant labour. Young people in rural areas shun a farming future as salaries and living conditions lag behind those in urban areas by leaps and bounds. Like in many other developing countries, farming is seen as an inferior job with little prospects.

Although people now live and work longer on average, demographic evidence indicates that
agriculture is viewed as a sunset industry. It is not only ageing but also losing understanding and respect. To achieve more robust agricultural production for the future, reviving an interest in primary production among next-generation leaders is paramount: agriculture must rise in status with new technology, marketing and business opportunities.

Moving Up the Value Chain and Developing a Countryside — Retaining Farming Families

The dominant model for farms all over the world is still the family-run farm, which can range from a tiny plot of land to thousands of acres. Real farm income in rural areas have been rising very slowly or stagnant in the past few decades — in some cases even falling — due to a lack of public and private investment in the rural economy. If farms do not thrive as a business, families will not continue to farm.

A sensible approach to address young people leaving the industry is hence to support and retain family farms. Farm subsidies, while popular in the developed world, are a short-term measure that distorts prices rather than help farming families in the long term. Instead, governments should explore macro-level development policies such as infrastructure investment and measures to support farm value-add and business diversification. Building shared processing, storage and packing facilities for rural farmers are examples on how to improve rural infrastructure.

Especially in peri-urban areas, improved transport and business linkages, and developing a cluster of agri-tourism farms can inject new capital into the industry. Napa Valley in California and Margaret River in Perth are good examples of an alternative model of development for fast-expanding Asian cities, rather than going the route of completely removing farms for urban development. While primary production remains the bedrock and lifeblood of these peri-urban farms, a more diverse range of jobs available on farms can attract young people to remain on the land or enter the industry. These farms also play an important role in education and conservation by allowing urban children to stay connected to their food sources and to drive demand for local produce and products.

Attracting New Entrants — Challenges and Opportunities

Perhaps more than any other profession, farming is perceived to be one that a person in born into. Perceptually, this is because of its association with inherited land. Being a farmer is also not a common aspiration of young people, though that is changing gradually.

One of the practical reasons is the high barrier to entry: agricultural land and assets cost a fortune and the investment is not easily returned within a decade or even two. Credit facilities are not favourable to farmers nor banks, both of whom have to accept a higher-than-normal risk of defaulting due to the nature of the business. The practical know-how and more importantly, the round-the-clock commitment of running a farm is not something that formal schooling can equip a potential entrant with. The common structure of farms — family-owned small businesses — makes it difficult for a new entrant to gain ownership of an established farm. When all the practical barriers and the fact that rural wages lag behind urban ones are taken into consideration, most potential entrants already stop themselves from trying.

Mental and cultural barriers also exist. Young people who grow up in the countryside mostly aspire to a city life with better standards of living, while urbanites are largely unaware of the breadth of employment opportunities available on a farm beyond their limited knowledge of farm operations. It does not help that farmers are famously insular; existing industry players do little to promote their own industry as an attractive one.

Despite the challenges, the industry must come together to attract new entrants with urgency. The Future of Farming Review Report co-created in 2013 by the British government, industry players and civil society found that new entrants tend to have higher tolerance to training, risk, new technology and innovation (Department for Environment, Food & Rural Affairs, 2013) — some would say critical elements of a successful farmer. The review identified alternative routes into farming that did not require such inhibitive upfront investments. These routes include share farming, contract farming, partnerships and a digital “matching” platform to offer under-utilised and unused land to aspiring new entrants. Many of these solutions are gradually being introduced not just to attract new entrants but to raise the productivity and profitability
of existing farmers, especially smallholders in developing regions around the world.

**Millennials: Agriculture’s Silver Lining**

Although the challenges of retaining farming families and attracting new entrants may seem insurmountable, the new breed of entrepreneurs and workers — the millennials — is exactly what agriculture needs for its revival. The industry’s vital importance and the grave challenges it faces are what entices millennials looking to make an impact.

All over the world, there is evidence that young people are already powering the revolution that agriculture needs; they are dragging it into the brave new world, bringing in not just the robots and the internet, but the better branding, marketing and the connection to a more balanced lifestyle. To catalyse this revolution, next-generation farmers and those in related fields must blow the trumpet and make sure others notice the developments in the industry.

Many young people will be involved in the technical side of things: they will invent and adapt new technologies that will increase productivity, value and profit, and reduce waste. Others need to nurture the softer side of the profession: improving marketing, promoting education and harnessing the community. Farmers and their colleagues in the industry must create opportunities for children to understand the many aspects of agriculture and the arduous journey food makes to their plates, so that they do not grow up to be wasteful and uninformed consumers. Similarly, leaders in government and business must make it a point to educate the larger society on the importance of the agricultural trade and to rally support behind the essential industry.

It has been half a century since the Green Revolution and a quarter since the Gene Revolution. While science will continue to break barriers in agriculture, it is time for its people to step up to ensure human resource succession and continued opportunities for future farmers. Attracting youth into agriculture should not be an afterthought but a central mission.

---

Manda Foo is the owner and Chief Adventurer at Bollywood Adventures, a start-up that makes agriculture and farms accessible.


“As noted earlier, with fewer farmers in agriculture, labour productivity becomes an important issue that currently seems to be only solvable through deployment of technology, which saves labour and concurrently increases crop yields with less input.”

PROFESSOR PAUL TENG

Food Matters: Food Security and the Future of Food (Write Editions, 2018) by Prof Paul Teng and Manda Foo, is available at all major bookstores.
Food is an existential need that has often been taken for granted, especially when there are no crises that threaten its supply. But as the Spanish philosopher George Santayana famously said, “Those who do not remember the past are condemned to repeat it,” and human history has seen many food crises, from the plagues in Egypt to the Irish Potato Famine in the 1840s, to the Great China famine of 1959–1961 which destroyed over 15 million lives, and to the recent food price shocks of 2007–2008. It was within living memory too that much of the world was threatened by famine and hunger in the 1950s and 1960s, and even today, there are still many countries where for reasons of conflict, strife, natural disaster or inclement climate, food is still not of an assured quantity to meet daily needs. Indeed, even in ASEAN countries, one of the most dynamic economic regions of the world, the United Nations estimates that about one in 10 people still do not have enough to eat. The Asian Development Bank has termed the broader phenomenon the “two faces of Asia”, where wealth and full stomachs co-exist with poverty and hunger. That food matters is well recognised by governments and their citizens alike, and food security is a concern foremost in the minds of many. This became especially so after the food supply shocks and price hikes of 2007–2008, which jolted many from complacency to again put food security on the agenda of governments. There is also an increasing realisation that food security is a complex phenomenon with many facets that are inter-linked in a global food system that sees food as a commodity, and trade essential to assure sufficiency between food surplus or exporting countries and food deficit or importing countries. In the foreword for my new book, Food Matters: Food Security and the Future of Food (authorised with Manda Foo, 2018), Dr Fan Shenggen, Director General of the International Food Policy Research Institute, wrote: “Society in general needs to understand how food is produced through agriculture and the efforts of many actors — from farmers to scientists — to ensure that we keep ahead of the spectre of famine. While population growth is well known as driving the need for more food, less well known are the many other trends and challenges associated with food security. This book fills that need to inform about these complex trends and challenges. Like peeling an onion, knowledge can only be gained by shaving off the many layers of complexity to reach the core of the issue.”

Current Situation and Threatening Trends
The world of food today is made up of countries that produce through agriculture enough food for themselves and some for export, and those countries that either do not produce enough or do not even have the capacity to produce any significant amounts, like the small city-states of Singapore and Hong Kong. The ability to produce more food in a country from arable land which is declining in area due to the demands from urbanisation means that ways of farming with new technologies has become akin to a race to stay ahead of the hunger curve. The Green Revolution of the 1960s has generally been credited with staving off famine in many countries through new varieties of seeds and inputs such as fertilisers, pesticides and proper knowledge for managing water and soil. However, these early yield gains do not have an eternal life and for many crops, productivity growth has been declining. The natural resource base on which agriculture depends, has also been declining. A relatively new threat in many developing countries of the world is the ageing and declining farmer population, with insufficient new entrants into farming. Of course, the “mother” of all threats is “climate change”, which over the long term has potential to derail all the gains made by farmers and scientists to keep ahead of the food insecurity curve. Even in the short term, unexpected severe weather events have proven to be a curse on farming and led to supply disruptions of fresh vegetables, fruits and fish. Threats from climate change and severe weather will require innovative approaches to deal with them, among which is climate-smart agriculture that uses adaptive farming methods and crop varieties or animal breeds.

Put together, there are many threats to food security that form the supply side of the food equation. There is also the demand side, emanating from the increased demand for food due to growing numbers of people, but also from their changing dietary habits resulting from urbanisation and growing wealth. A threat is increased food waste as urban societies become divorced from farming and do not value food as an existential item but rather treat it as a commodity, to be cast away when not needed as often happens when excess is served. Food waste has become a matter of concern and needs to be addressed as a threat to food security requiring action. Changing diets from urbanisation and increased wealth also lead to two out of the three “burdens” of malnutrition — obesity linked to non-communicable diseases such as diabetes, and micro-nutrient deficiency. The third burden is under-nutrition.
leading to damaged child development and nutrition deficit diseases.

But the urbanisation trend on its own could lead to government policies set to favour consumers in cities at the risk of disadvantaging farmers who produce food. Low prices for consumers originate from low prices paid to farmers and further disincentivise new entrants to farming, as well as making it difficult for present-day small farmers to have a decent livelihood.

Important New Adaptive Trends

The world became an urban society in 2008, and many developing countries will further urbanise and reduce their agriculture in the coming years. As noted earlier, with fewer farmers in agriculture, labour productivity becomes an important issue that currently seems to be only solvable through deployment of technology, which saves labour and concurrently increases crop yields with less input. Two important sets of technologies could potentially prove to offer solutions — digital technologies and biotechnology — both operated in a new form of farming called “Knowledge Intensive Agriculture” (KIA). Farmers not only need new physical tools but also the knowledge to efficiently use these tools, hence KIA that is reflective of the Fourth Industrial Revolution based on digitalisation, but tapping into the earlier “bio” revolution based on advances in molecular biology. Biotechnology crops (or colloquially, “GMOs”) now form the bulk of soybeans used to feed livestock and fish to satisfy the demand for protein, and despite broad acceptance by scientists of their safety, still see controversy stirred by special interest groups. Biotechnology crops account for much of the trade between food-exporting and food-importing countries. The use of drones for crop management, and the use of portable devices to help make planting and selling decisions are signs of digital technology in KIA. So too is the use of climate-adapting crop varieties such as drought-tolerant corn and flood-tolerant rice. All these adaptive trends reflect human creativity and the innovative spirit that responds to needs created by crises.

An adaptation to the urbanisation trend is also urban-and peri-urban farming (UPA) that is technology-enabled with efficient space utilisation. This has taken the form of vertical farms in which plants are grown in multiple stacks that reach upwards and in plant factories that grow plants in a totally enclosed environment with measured air, light and humidity. Indeed, plant factories may even be considered as cities responding adaptively to the greater societal need for fresh, safe food produced close to source, and is spawning new agricultural entrepreneurs who are tech-savvy and fin-savvy. Singapore as a small island-state is now finally emerging from its complacency to actively pursue this space and in the process, produce some quantities of food to buffer itself from unexpected food insecurity. As a vision, there may even be a potential to export a Singapore brand of factory food that is safe, fresh and healthy.

The Future of Food and “Glocalisation”

Food today comes mainly from agriculture, either in the countryside or in cities. There is growing interest in producing food without agriculture in the form of synthetic meat or meat alternatives based on vegetable cells and other kinds of plant cells. The production is based on technology, which grows cells in large sterile containers under controlled conditions. Beef hamburger patties were among the earliest synthetic meats and the technology has now improved so much as to lower the cost of production as well as to produce meat that is virtually not distinguishable from real animal meat. Advocates argue that this form of meat production is kinder and less polluting, and if the trends emulate those in the microchip industry, it can be expected that the price of synthetic meat will keep growing lower. A related trend in future food is increased interest in non-mainstream food such as insects, with several countries now having insect food factories and F&B outlets serving insect-based dishes.

However, in the foreseeable future, food grown traditionally using soil and plants or animals as we know them, will likely still remain mainstream.

Food security in the future will likely also see countries which have a certain level of self-sufficiency if they have the natural resources to produce food, and countries which rely more on international trade to source their food. No country today has a “closed door” policy on food imports. Even the most food-secure countries import to allow diversity in their diets, in response to citizen demands. Therefore, a “Glocal” approach is likely to dominate in the future, expressed as “Think Global, Act Local”, and reflective of the strong links between countries in a global food supply system.

Professor Paul Teng is an academic with the Nanyang Technological University, Singapore. He is also Adjunct Senior Fellow at the S. Rajaratnam School of International Studies. He has over 30 years of experience with agriculture and food issues in North America, East Africa, Australasia and Asia.

1 According to the Population Division of the United Nations, 2008 was the year in which more people live in urban than in rural areas (United Nations, 2008). In essence, the world became an urban society in 2008.

The HEAD Foundation (THF) is a charitable organisation set up in 2013 in Singapore to contribute to the sustainable development of Asia. As a think tank, we focus on issues around:

We aim to influence policies and create positive social impact which will contribute to the sustainable development of Asia. We partner with like-minded regional and global experts and institutions to advance our common goal, and promote public awareness on issues in our fields of expertise.

**Our Work**
- We support worthy research projects and social initiatives in Asia.
- We publish newsletters, research reports, policy documents and a book series to disseminate knowledge and share opinions.
- We host regular public talks to create awareness and share knowledge with our community.
- We run capacity-building programmes to equip community and education leaders in Asia with practical skills to address pressing challenges.

**Our People**
- Our Advisors and Fellows share their extensive experience and leadership. They are instrumental in helping the Foundation shape its projects and programmes, and in building new alliances.
- Our team comprises specialists from across the region. They bring with them management skills, domain knowledge and execution experience from various sectors.

**Our Partnerships**
- We collaborate with individuals and organisations that bring along with them expert knowledge, resources and on-the-ground networks to help achieve our goals.
- We work with our partners to strengthen the influence and impact of our activities to achieve meaningful outcomes.