

Portraits of Top-Performing Education Systems

CJ Koh Professorial Lecture Series No. 3
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TABLE OF CONTENTS

1.	Foreword	4
2.	About the CJ Koh Professor Ruth Hayhoe	7
3.	About the Panellists	8
4.	Seminar to NIE Staff: A Bridge Too Far? Comparative Reflections on Confucian and Christian Values	12
5.	Roundtable Symposium	16
a.	Conceptualising Teaching and Learning for Educational Innovation: The Singapore Story	17
b.	Ensuring Quality Teaching and Learning: Lessons Learned from Finland	20
c.	Staying on Top in Internationally Benchmarked Tests: South Korea's Secrets Shared	23
d.	Blazing the Trail: How Hong Kong Consistently Stays on Top of the League	28 33
e.	What the United States Can Learn from the East	36
f.	Singapore's Performance in PISA: Levelling Up the Long Tail	
g.	Translating Educational Research on Teaching and Learning into Policy and Practice: A Comparative Study of How Top-Performing Systems Stay on Top	39
6.	CJ Koh Professorial Lecture: An Emerging Model of the Chinese University	45

FOREWORD



On behalf of the CJ Koh Professorship committee and editorial team, I am pleased to present to you the third issue of the *CJ Koh Professorial Lecture Series* – “Portraits of Top-Performing Education Systems”. This is a consolidated report of the Roundtable Symposium held in conjunction with the appointment of Professor Ruth Hayhoe as the CJ Koh Professor, and the Seminar to NIE Staff and CJ Koh Professorial Lecture she delivered during her visit from 30 April to 3 May 2012. The purpose of this report is to ensure that the rich and insightful discussions arising from Professor Hayhoe’s appointment reach out to key stakeholders within the National Institute of Education (NIE), the Ministry of Education, Singapore (MOE), and the wider local and global educational fraternity at large.

This CJ Koh Series Roundtable Symposium coincides with the writing of the book *Education Innovation Policies: Levelling Up and Sustaining Educational Achievement* under the Springer Education Innovation book series. The book showcases how leading education systems continually innovate to stay on the top of their league. Contributors of the book chapters were invited to discuss the management and implementation of educational policies of their country’s educational systems, and to share about top-performing education systems.

In this third issue of the CJ Koh Series, we have included insights by Professor Ruth Hayhoe and some of the book’s authors, namely: Professor Youngdal Cho, Professor A. Lin Goodwin, Professor Esther Ho,

FOREWORD

Professor Sing Kong Lee, Professor Wing On Lee, Professor Hannele Niemi, Dr Laik Woon Teh and myself.

Professor Hayhoe served as the discussant as she has a deep understanding of both Western and Eastern educational systems. She delivered two lectures during her visit. Entitled “A bridge too far? Comparative reflections on Confucian and Christian values”, her staff seminar shed light on the similarities and differences between both faiths and the possibility for the East and West to learn from each other. In her public lecture, “An emerging model of the Chinese university”, Professor Hayhoe shared key findings from her research study of the massification of higher education in China’s universities. Both lectures were insightful and poignant.

In his presentation, “Conceptualising teaching and learning for educational innovation: The Singapore story”, Professor Sing Kong Lee recounted the journey that education stakeholders in Singapore took to prepare teachers for the demands of educating students in the 21st century and the key changes that have taken place in designing a teacher education curriculum for the 21st century. He stressed, throughout, the importance of systemic coherence and alignment in the formulation and implementation of educational policies in the Singapore system.

Professor Wing On Lee and I looked at a comparative analysis of the policies and practices put in place by top-performing education systems to sustain educational achievement in a presentation entitled “Translating educational research on teaching and learning into policy and practice: A comparative study of how top-performing systems stay on top”.

In Dr Laik Woon Teh’s presentation, “Singapore’s performance in PISA: Levelling up the long tail”, he recounted Singapore’s multiple efforts to bridge the gap

between high- and low-achieving students, stressing how far Singapore has come educationally in a matter of a few decades.

In Professor Youngdal Cho’s presentation, “Staying on top in internationally benchmarked tests: South Korea’s secrets shared”, he shared the key success factors of South Korea that have allowed them to consistently perform close to the top in internationally benchmarked tests.

In her powerful delivery entitled “What the United States can learn from the East”, Professor A. Lin Goodwin gave her insights on the importance for the US to learn the best practices from international peers in order to build a more equitable high-performing education system across the country.

Professor Esther Ho discussed the factors related to high achievers in Hong Kong and the success and challenges for Hong Kong in her piece entitled “Blazing the trail: How Hong Kong consistently stays on top of the league”.

Professor Hannele Niemi shared the sweet secrets to the success of Finland, allowing them to consistently top the league in internationally benchmarked tests in her presentation entitled “Ensuring quality teaching and learning: Lessons learned from Finland”.

In closing, I would like to take this opportunity to thank all who contributed to this report in one way or other. To NIE Director Professor Sing Kong Lee and Dean of Education Research Professor Wing On Lee, thank you for your unwavering support of the *CJ Koh Professorial Lecture Series* from start to finish, enabling the report to become a reality.

To our CJ Koh Professor Ruth Hayhoe, your thoughtful leadership and sharing have given this report its intellectual substance and insights. To

FOREWORD

our knowledgeable panellists in alphabetical order, Professor Youngdal Cho, Professor A. Lin Goodwin, Professor Esther Ho, Professor Sing Kong Lee, Professor Wing On Lee, Professor Hannele Niemi and Dr Laik Woon Teh, my sincere appreciation goes out to all of you who carved out precious time to contribute to the richness of discussions at the Roundtable Symposium.

This consolidated roundtable report would not have been possible without the stalwart support of the secretariat team who were responsible for producing the first drafts through to the final product. I would like to thank the Writing Team (in alphabetical order), Mr Chenri Hui, Dr Daphnee Lee, Dr Shu Shing Lee and Ms Jocelyn Sara Tan; and also our impressive colleagues from the Office of Education Research, namely Mr Aaron Chong, and Ms Ai-Leen Lin and Mr Jarrod Tam.

On this note, it's my honour to present you the third issue of the *CJ Koh Professorial Lecture Series* – “Portraits of Top-Performing Education Systems”.

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Series Editor, CJ Koh Professorial Lecture Series
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Singapore

Acknowledgement

We like to thank Mr Joseph Dawes for his contributions to this issue.

ABOUT THE CJ KOH PROFESSOR RUTH HAYHOE



Professor Ruth Hayhoe is a specialist in Comparative Education and a Sinologist. From 1997 to 2002, she headed the Hong Kong Institute of Education and is now recognised as its President Emerita. She is also a professor in the Department of Theory and Policy Studies in Education at the Ontario Institute for Studies in Education of the University of Toronto. She served in various appointments including Chair of the Higher Education Group and Associate Dean from 1986 to 1997. Before that, she held teaching positions at Heep Yunn School in Hong Kong, at Fudan University in Shanghai, and at the Roehampton Institute of Higher Education in London. She also held a diplomatic post at the Canadian Embassy in Beijing from 1989 to 1991.

Professor Hayhoe is the author of about 75 articles and book chapters, as well as several books on Chinese education and East–West relations in education, including *China's Universities and the Open Door* (New York: M.E. Sharpe, 1989), *China's Universities 1895–1995: A Century of Cultural Conflict* (Hong Kong: CERC, University of Hong Kong, 1999) and *Portraits of Influential Chinese Educators* (Hong Kong: CERC, University of Hong Kong & Dordrecht, The Netherlands: Springer, 2006). She has also edited many books, including *East–West Dialogue in Knowledge and Higher Education* (New York: M.E. Sharpe, 1996), *Knowledge Across Cultures: A Contribution to Dialogue among*

Civilizations, (Hong Kong: CERC, University of Hong Kong, 2001), and *Education, Culture and Identity in 20th Century China* (Ann Arbor, MI: University of Michigan Press, 2001).

As an advisory professor to 10 universities in different regions in China, she has directed two major projects in collaboration with Chinese normal universities in joint doctoral training and educational research, with the support of the Canadian International Development Agency (CIDA). She has also done extensive consultancy work for both the World Bank and CIDA on China-related projects. In 2000, she was appointed trustee of the United Board for Christian Higher Education in Asia and from 2004 to 2010, she served as Secretary of the Board. From 2002 to 2003, she served as a member of the Research Grants Council of the Hong Kong Government. From 2005 to 2010, she was Principal investigator for a major research project, supported by the Social Sciences and Humanities Research Council of Canada, entitled “China’s move to mass higher education: Implications for civil society and global cultural dialogue”.

From 1998 to 2001, she was a member of the Education Commission in Hong Kong, and she is a former President of the Comparative and International Education Society (CIES) based in the United States. In 1998, she was conferred the title of Honorary Fellow by the University of London, Institute of Education. In 2002, she was named *Commandeur dans l'Ordre des Palmes Academiques* by the Government of France and was conferred a Silver Bauhinia Star by the Hong Kong Government. In November 2002, she was conferred an honorary doctorate in education by the Hong Kong Institute of education. She was also named Zhijiang Chair Professor in Education at the East China Normal University in Shanghai in 2002. In 2009, she was conferred a Lifetime Achievement Award by the Higher Education Special Interest Group of CIES and in 2010, she was named an Honorary Fellow of CIES.

ABOUT THE PANELLISTS



Professor Sing Kong Lee is Director of the National Institute of Education (NIE), Singapore and Managing Director of NIE International. He led in the articulation of the 3:3:3 Roadmap, which outlines NIE's strategic directions from 2007–2012. In 2007, he served as the Inaugural Chair of the International Alliance of Leading Education Institutes, putting NIE firmly in the global league of teacher education providers. Among his many awards received are the Public Administration Medal (Bronze) (1981), Save Planet Earth Merit Award (1992), Asian Innovation Award (Bronze) (1998), *Chevalier dans l'Ordre des Palmes Academiques* (1999), National Technology Award 2000, Urban Agriculture Award (2000), Excellence for Singapore Award (2001), Singapore Innovation Award (2001), Public Administration Medal (Silver) (2004), Fellow of the Singapore Institute of Biology (2005), and the National University of Singapore Distinguished Alumni in Science Award (2009). Professor Lee was most recently awarded the Public Administration Medal (Gold) in 2011 by the President of the Republic of Singapore.



Professor Hannele Niemi is Professor of Education at the Faculty of Behavioral Sciences, University of Helsinki (UH) in Finland. She has served in various appointments such as Vice-Rector, Dean, Vice-Dean and Head of many departments at UH in the period from 1998 to 2009. She has also been Professor of Education and Visiting Scholar in universities such as Oulu, Turku, Tampere, Michigan State and Stanford. As Chair, Director and member of various international education and education research boards and scientific councils, Professor Niemi has been a key contributor to the international and Finnish education landscapes.

ABOUT THE PANELLISTS



Professor Cho Youngdal is Director of the Center of Public Leadership and a Professor at the Department of Social Education and formerly Dean of the College of Education at Seoul National University, South Korea. He has also served as President of the Korean Association of Anthropology of Education, Korean Association of Economic Education, Korean Association of Social Education and Head Secretary in the area of education and culture in the President's Office. His main research is in the area of micro-ethnography of lesson interaction in the classroom. He has published numerous papers in the area of ethnography in education and written several books such as *Understanding Lesson Interactions in a Korean Classroom* and *Ethnohistory of 7th National Curriculum Development in Korea*.



Professor Esther Ho is a faculty member at the Department of Educational Administration and Policy, and Director of the Hong Kong Centre for International Student Assessment within the Faculty of Education at the Chinese University of Hong Kong. With her extensive experience and expertise in teaching in Hong Kong primary and secondary schools, Professor Ho's contributions extend to policy-making in the Hong Kong education system. Professor Ho has been involved in a number of award-winning research projects on Home–School Collaboration and International Studies in Education and was awarded the Fulbright Scholarship to Pennsylvania State University (2004) and Johns Hopkins University (2010). She served as a research and teaching consultant to the World Bank in the national project “District Primary Educational Programme, India” and was Principal Investigator of Home–School Collaboration Projects (1999–2001 and 2001–2004) and Hong Kong PISA Projects (PISA 2000+ to PISA 2012). Her research interests include sociology of education, parental involvement, home–school community collaboration, school effectiveness and school reform, decentralisation and school-based management, research methodology in education, multilevel analysis in educational research.

ABOUT THE PANELLISTS

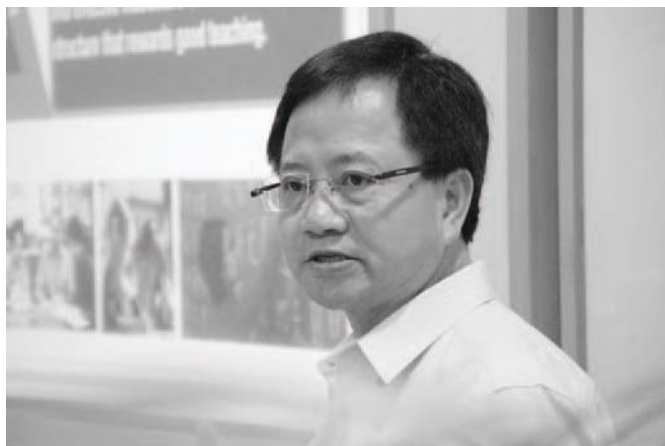


Professor A. Lin Goodwin is Professor of Education and Vice Dean at Teachers College, Columbia University, New York. Her research and writing focus on the connections between teachers' identities and their development, between multicultural understandings and curriculum enactments, and on the particular issues facing Asian American teachers and students in U.S. schools. She has published widely in key education journals and is the editor of several books. Recent articles include "Curriculum as colonizer: (Asian) American education in the current US context" in *Teachers College Record*, and "Globalization and the preparation of quality teachers: Rethinking knowledge domains for teaching" in *Teaching Education*. She has a chapter in a forthcoming volume edited by Linda Darling-Hammond and Ann Lieberman entitled *Quality Teachers, Singapore Style*. Professor Goodwin has served as a consultant to a wide variety of organisations around issues of teacher education, diversity and assessment. She has been privileged to collaborate with educators in the Middle East, Europe and Asia to bring about school, teaching and curriculum reform.



Dr Laik Woon Teh is Senior Fellow at the Office of Education Research, National Institute of Education, Singapore and Principal Research Specialist, Ministry of Education (MOE), Singapore. He graduated from Trinity Hall, University of Cambridge, UK with a Physics and Theoretical Physics Tripos as a Public Service Commission Scholar. He furthered his education by obtaining a Master's in Administration and Social Policy from the Graduate School of Education, Harvard University. He then obtained his PhD on an MOE postgraduate scholarship from the Graduate School of Education, University of California, Berkeley, specialising in Quantitative Methods and Evaluation. Dr Teh's research interest is the application of statistical and measurement models in policy analysis and programme evaluation. In his 10-year MOE career, he has completed numerous studies that apply multilevel models, structural equation models, Rasch models, propensity score matching and Heckman selection models to estimate the causal effects of policies and programmes. The findings of these studies have motivated new policies and programmes as well as their refinements in Singapore. Dr Teh participates actively in the economics and social research network of the Singapore Public Service and is on the advisory panel of a research fund of MOE.

ABOUT THE PANELLISTS



Professor Wing On Lee is Dean of Education Research at the National Institute of Education, Singapore. He is also President of the World Council of Comparative Education Societies and Honorary Professor of Education at the University of Sydney and University of Hong Kong. Professor Lee is a world-renowned scholar in the fields of comparative education, citizenship education, and moral and values education. He has published over 28 books and 140 journal articles and book chapters. He received the Medal of Honour from the Hong Kong Government in 2003 and the Hong Kong Soka Gakkai Association International Award in 2010. He has obtained research funding of over HK\$34 million during his academic service in Hong Kong. Professor Lee has been Visiting/Honorary Professor at a number of universities in the UK, USA and Chinese Mainland. He has served as a consultant to the World Bank and Asian Development Bank, and is a member of the International Advisory Board of Mongolian Education Alliance.



Associate Professor Ee Ling Low is Associate Dean for Programme and Student Development at the Office of Teacher Education, National Institute of Education, Singapore and is concurrently an Associate Professor of English Language and Literature. Previously, she was Sub-dean for Degree Programmes (2004–2009). She obtained her PhD in Linguistics from the University of Cambridge, UK under a Nanyang Technological University–National Institute of Education Overseas Graduate Scholarship. In 2008, she won the Fulbright Advanced Research Scholarship which she spent at the Lynch School of Education at Boston College. She was a visiting professor at the Department of Linguistics at Chulalongkorn University in June 2008. She has published several books on English linguistics and phonetics, and many journal articles and book chapters on speech rhythm, stress and intonation and initial teacher education. In 2008–2010, she served as the Executive Director of the Asia-Pacific Educational Research Association (APERA), a role for which she was awarded fellowship of APERA in recognition of her dedication and commitment to her service in 2010.

Note: The biographies of the panellists were adapted from their respective university websites.

A BRIDGE TOO FAR?

COMPARATIVE REFLECTIONS ON CONFUCIAN AND CHRISTIAN VALUES

PROFESSOR RUTH HAYHOE

30 APRIL 2012, SEMINAR TO NIE STAFF, NIE, SINGAPORE



Introduction

Spiritual values both inform and power what we do as teachers, as educators, and as scholars of education. While personal, religion serves as an important impetus to guide our values system.

This presentation explores the importance of the spiritual dimension in Hayhoe's journey of scholarship. It presents personal reflections on the values and ideas of two distinctive faith traditions – Christian and Confucian – in a lifelong effort to bridge the educational worlds of China and Europe.

The worlds of Christian Europe and Confucian China may seem far apart, yet there are foundational, shared values undergirding the two civilisations. By comparing the values of the two faith traditions, we discover

commonalities that may complement one another and allow us to engage in mutual dialogue about the sources of our spiritual strength to carry out educational work.

To do so, we look at the life and beliefs of Confucius and St Paul, two individuals who laid the foundations for the respective faith traditions, and indeed civilisations.

Comparing Confucius and St Paul

Both Confucius and St Paul are recognised as great teachers in their respective faiths. While they lived in different times and contexts, each made a lasting contribution to educational thought and practice in the Chinese and European worlds respectively.

Confucius or Kong Fuzi (孔夫子) lived in China during the fifth century, during the period of the late Eastern Zhou dynasty. It was a difficult time of war among the

A BRIDGE TOO FAR?

COMPARATIVE REFLECTIONS ON CONFUCIAN AND CHRISTIAN VALUES

PROFESSOR RUTH HAYHOE

30 APRIL 2012, SEMINAR TO NIE STAFF, NIE, SINGAPORE

states and extreme poverty for Confucius. But he had an insatiable thirst for knowledge, and later spent 14 years carrying a message of love and justice among the warring states.

The apostle St Paul lived in first-century Europe, 500 years after Confucius' time. Following his dramatic conversion, he travelled through the Roman Empire spreading a message of peace. Despite facing many difficulties, St Paul continued to set up churches all over what is now Europe until his martyrdom.

Both Confucius and St Paul would not have known that thousands of years later, their words and teachings would be read and memorised by children and adults around the world. Although Confucius' teachings did not always receive acceptance then, they have certainly had a huge influence on China's civilisation today. Likewise, Christian Europe would not be what it is today without St Paul and his missionary journeys.

Dominance of Secularism in the 20th Century Academy

However, religious values have not always been appreciated by the academy. In 1893, the city of Chicago hosted the first World Parliament of Religions. The leaders of many different religions came together and explored the values they had in common. It did not happen again until 1993, a hundred years later, when this World Parliament of Religions was restored. It now meets every 3 to 5 years.

This organisation looks at the United Nations Millennium Development Goals – encompassing areas of concern such as environmental, social justice, and educational issues – to see how we can mobilise leaders in different faith traditions and communities around the world to work together for a more just world.

What is more significant is that this organisation felt that without the values of our religious beliefs, we would not have the strength to fulfil the Millennium Development

goals. Pure rationalism or pure professionalism is just not enough. We need to draw upon the deep spiritual forces of our faith and our religious beliefs. This advocacy group therefore looked for common values amidst a diversity of faiths, for the purpose of upholding social responsibility and social justice. There is a phrase in Chinese that beautifully expresses this effort: *he er bu tong* (和而不同) – harmonising but not conforming.

But why did this organisation not meet for a hundred years? What happened to our field of education during that time? It was a “century of secularism”. During that time, secularism and secular values impeded educators from recognising and bringing spiritual values and religious traditions into the core of their work.

This dominance of secularism may be traced to the German philosopher Immanuel Kant during the period of the Enlightenment in the 18th century. He argued for a separation of religious beliefs and scientific rationalism. This separation of facts from values was also advocated by 20th century sociologists such as Max Weber and Talcott Parsons. On the other side of the world were Marxists who saw religion as the “opium of the people” and an illusion of happiness that would no longer be needed in a Socialist society.

Both threads of scholarship pointed to the retreat of religion and the rise of secularism as societies became more modern. The separation of science from religion came to characterise the advancement of knowledge in the academy and in society.

In an effort to “redeem modernity”, Jürgen Habermas proposed a revitalisation of the world of cultural life. He felt the need to restore both a moral and aesthetic practicality to balance the dominant instrumental-technical notion of rationalism. He saw this redemption as coming from within European historical and cultural resources. This, however, was limited to only European societies and there was no call for a dialogue with other civilisations.

A BRIDGE TOO FAR?

COMPARATIVE REFLECTIONS ON CONFUCIAN AND CHRISTIAN VALUES

PROFESSOR RUTH HAYHOE

30 APRIL 2012, SEMINAR TO NIE STAFF, NIE, SINGAPORE

The problem of secularism and modernity is a world issue and is not limited to the European world, and it took the fall of the Soviet Union to bring this to the forefront. The unanticipated end of Cold War in 1991 highlighted the poverty of Western secular, rationalist scholarship and completely changed the world of social science scholarship.

For the first time, Europe and the Western world began to recognise the need to learn from other civilisations. It was no longer the ideal model that everyone else had to follow and catch up with. In the wake of unprecedented global events, people were asking: What can the West learn from other cultures?

The need for learning about other civilisations was underscored in Samuel Huntington's book, *The Clash of Civilizations*, published in 1993. He believed the ideological conflicts between the socialist and capital worlds were nothing compared to the deep-rooted conflicts that were going to arise from the different civilisations of the world. Adopting a realist position, his recommendation was to learn about other civilisations in order to defend the West and what it stood for. But this learning should not just be with the purpose of defending or protecting our own culture, as Huntington suggests. As civilisations engage in dialogue, much will be learned from other cultures that can be used to enrich and advance our own pursuit of knowledge.

Religion and the Academy in the 21st Century

The tragedy of the 9/11 terrorist attacks reminded us that cultural and religious differences are far deeper than the ideological ones of the Cold War. It was both ironic and important that this happened in 2001, the year that the United Nations named as the "Year of Dialogue among Civilizations".

Contrary to what sociologists were saying about how we were becoming more secular, religion is still alive and well and exerting itself in the public space. There was suddenly

a new space in social science scholarship, and this is important – a place for the recognition of religious values and knowledge in the public space, in which academics can enter into dialogue about their different faiths.

As the World Parliament of Religions has shown us, it is important for us to see the differences between the faith traditions and the values we embrace. By recognising and understanding them, Eastern religions like Confucianism can contribute to some kind of redemption of modernity; and both East and West can move forward together.

While other scholars have compared Confucius with Christ, Hayhoe has chosen to focus on Confucius and St Paul. What were the differences between them and what were the similarities? To understand the worlds in which they lived and the core values of their message, we need to go back to the roots of their faith traditions.

It is important to point out that at this time, the Western world is expecting something from East Asia, something more than an economic miracle, more than great results in PISA, more than educational techniques that will teach the West how to do it better. Such is the vision of scholars of Confucianism today, such as Tu Weiming and Robert Neville, as we move into the 21st century. They want to bring some of the core values of Confucian China to influence Christian Europe.

Core Values in Common

Even though the beliefs of Confucius and St Paul differ and the contexts in which they lived were dissimilar, they taught and strove for some common values. Both of them put a premium on love and peace to drive social justice. Confucius carried a message of love with justice; St Paul preached a message of peace with justice.

Confucius and St Paul both had a strong sense of social responsibility. They also had a deep commitment to learning and the pursuit of knowledge. To them, the pursuit of knowledge was not just for its own sake, but

A BRIDGE TOO FAR?

COMPARATIVE REFLECTIONS ON CONFUCIAN AND CHRISTIAN VALUES

PROFESSOR RUTH HAYHOE

30 APRIL 2012, SEMINAR TO NIE STAFF, NIE, SINGAPORE

the use of this knowledge was always for the human good and for service to society.

In both Confucius and St Paul, we see a desire for a better society. St Paul's hope was to see "a world in which violence and injustice are transformed into purity and holiness" (Crossan & Reed, 2004, p. 170). Confucius' mission was "the cultivation of people who would strive diligently to create a society in which those who were born into this world would be glad they had been born" (Inoue, 1989, p. 99).

While they were both such great teachers, the lives of both were marked by humility – an emptying of the self for the sake of others. Japanese theologian Masao Takenaka (2002) uses the bamboo as a symbol of Christian and Confucian values in Asian society. The bamboo is one of the few trees that, when cut open, is empty. Yet, it has many uses because it is empty, such as a vessel for eating and drinking. It is also flexible in the way it moves back and forth when the wind blows.

It is interesting to see how Confucius and St Paul, living in such turbulent times and through such difficult circumstances, dealt with and thought about the end of their lives. St Paul died a martyr in his late 50s; Confucius was in his early 70s when he passed away. The necessity of social responsibility, mingled with a sense of humility, continued to drive the way they lived out their lives.

Confucius described his life as a series of steps unfolding over time. Once he had understood "the mandate of Heaven", he was very clear about his direction and at his end, he was so close to Heaven that he could have whatever his heart desired without overstepping the mark. There was a serenity that prevailed in spite of a bitter trail of tears.

Similarly, St Paul displayed a quiet assurance in having fulfilled his calling. He described it as a libation – an outpouring of his love and his life for the sake of others.

In his letters, St Paul also likened life to a fight and a race, but he turned the violent images of racing and war that were prevalent during the Roman Empire into images of peace and self-giving.

Conclusion

The title of this presentation is "A Bridge Too Far?" with a question mark. And the answer to this question is "no". It may feel far because these worlds are historically very different. But at this time in human history, perhaps one question can bring us even closer: What can we learn from one another?

Note

¹ This presentation is based on a paper that was first presented at a conference entitled "Education and Global Cultural Dialogue: A Tribute to Dr Ruth Hayhoe", held in Toronto on May 6, 2011, following the annual meeting of the Comparative and International Education Society held in Montreal, Canada from May 1–5, 2011.

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ROUNDTABLE SYMPOSIUM

2 MAY 2012, NIE, SINGAPORE



This Roundtable Symposium gathered prominent education academics and thinkers to share their thoughts and perspectives of how their education systems level up their citizens and sustain their educational achievements from within. This honest, candid and forthright sharing session sought to elucidate the workings of successful education systems, their successes and challenges for the future.

This roundtable convened the authors of a co-edited book by Professor Sing Kong Lee, Professor Wing On Lee and Associate Professor Ee Ling Low entitled *Education Innovation Policies: Levelling Up and Sustaining Educational Achievement*. The book will be published under the book series *Springer Education Innovation*. It will present how top-performing educational systems all over the world are constantly innovating their educational policies to nurture their citizens for the challenges of the future economy and the anticipation of the unknown.

CONCEPTUALISING TEACHING AND LEARNING FOR EDUCATIONAL INNOVATION

THE SINGAPORE STORY

PROFESSOR SING KONG LEE

DIRECTOR, NIE, SINGAPORE



Introduction

An education system's effectiveness can only be judged by how fast it responds to change, and the successful implementation of policies that better prepare our students to deal with change. Blessed with the advantage of our small size, the stellar standards of the Singapore education system are reached through the capacity for swift response to changing demands of the new education landscape. Responsiveness to the demands of 21st century education requires a concerted and coherent action plan, and this endeavour needs to include multiple stakeholders across the educational spectrum.

In Singapore, this coherence is attributable to the tripartite institutional partnerships amongst the Ministry of Education (MOE), the National Institute of Education

(NIE) and business stakeholders who employ students graduating from Singapore education's system.

Uncertainty has become a constant in today's rapidly changing economic landscape. Given the wide array of new professions that has emerged in the last few years, it is increasingly challenging to anticipate the skill sets needed by a child two decades ahead of their entry into the workforce, that is, at their point of entry into primary school.

Emerging from the continuing tripartite dialogue between MOE, NIE and the schools is the articulation of the 21st Century Competencies (21CC) framework, where four key attributes of the 21st century knowledge worker have been identified. The 21st century desired

CONCEPTUALISING TEACHING AND LEARNING FOR EDUCATIONAL INNOVATION

THE SINGAPORE STORY

PROFESSOR SING KONG LEE
DIRECTOR, NIE, SINGAPORE

student outcomes include enabling students to acquire confidence in arbitrating knowledge, and become a self-directed learner, an active contributor and a concerned citizen of Singaporean economy and society. In other words, they need to be cosmopolitan and even globetrotting professionals, but emotionally rooted and attached to Singapore.

To cite a case in point, the recent hosting of a Singapore Day in New York shows how professionals who live abroad can still connect with their Singaporean roots. The learners require innovative teaching approaches, delivered by teachers equipped to cater to the different learning styles of our 21st century learners.

At NIE, our core mission is to develop teachers equipped with the capacity to groom knowledge professionals. In partnership with the Ministry, we jointly conceived a 21st century Teacher Education Model (TE²¹) and this now serves to guide the design, delivery and continual enhancement of our programmes. This holistic approach to teacher education aims to inculcate essential values, skills and knowledge (or V³SK for short) which we consider to be desired attributes of the 21st century teaching professional.¹

Teachers must possess the capacity to firstly, nurture the learner and the quality of learning received by the learner. The Singapore teacher should subscribe to the belief that every child can learn provided the teacher is able to adopt appropriate teaching strategies for differentiated learners. The learner-centred approach is one of the key cornerstones in our values-driven teacher education model.

Secondly, mastery in core subjects remains imperative, so as to facilitate the deep learning within different subject domains. The Singapore teacher is the gatekeeper who helps sustain the excellent grades that our nation has

attained in international standardised testing, especially in Mathematics and Science.

Thirdly, teachers, as self-directed learners, must work in collaboration with one another as fellow professionals within the fraternity. This implies living up to professional teaching standards, including engaging in collegial collaboration and in the sharing of best practices whenever opportunities arise.

Our pre-service teacher education programme is designed to help our student teachers with the requisite Graduand Teacher Competencies upon the exit of our programmes. The programme is designed to enable a coherent learning journey for our teachers-to-be. For instance, the learning journey presented to each and every student teacher across all our pre-service programmes clearly outlines the learning objectives and each course delivered; and how the courses are interrelated in the facilitation of 21st century competencies, in particular, how they contribute to the building up of the values, skills and knowledge components outlined in our TE²¹ model and the specific graduand teacher competencies.

Pedagogically, we are also moving beyond the old paradigm where the professor is responsible for disseminating knowledge to passive learners. Professors, enhanced by capacities to harness the enabling powers of technology, relate to pre-service teachers as facilitators, not lecturers. Learning takes on an experiential, participatory, imagery-rich and coherent emphasis. With this new slant in experiential learning, learning is designed to be self-directed, inquiry-based and most importantly situated in a real-world context. We seek to hone interpersonal, critical thinking and communication skills through this learning journey. Our infrastructural support is also aligned to this mission. Classrooms, empowered by technology, are designed

CONCEPTUALISING TEACHING AND LEARNING FOR EDUCATIONAL INNOVATION

THE SINGAPORE STORY

PROFESSOR SING KONG LEE
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to transcend the traditional confines of passive learning environments.

Finally, in reiterating the commitment to transcending boundaries, we are looking at teacher education as a lifelong journey. The pre-service programme signals a finite period where a beginner teacher is equipped with graduand teacher competencies. Continuous learning must characterise the learning journey that teachers will undertake as they seek professional enhancement. The seeding of professional learning communities and mentoring programmes that create the space for collaborative learning and open dialogues are crucial for enhancing 21st century teacher capacities.

In support of this initiative, NIE fully supports cutting-edge research that helps to provide the evidence base from which to inform policy and practice of education. In so doing, it is envisioned that there will be systemic coherence across the key stakeholders in the educational spectrum such that national policy is informed by empirical research and the desired outcomes of education can be achieved.

With the processes in place for the continued renewal of the Singapore education system, the progressive question to ask would be: how can the acquisition of 21st century skills be tested through 21st century assessment. Frameworks are in place for the upholding the principle of Assessment for Learning, as opposed to the previous Assessment of Learning. With this new approach to assessment, the capacity of the teacher as reflective thinker/practitioner is being put to the test. Teachers need to be able to project and anticipate assessment strategies that fit into the principles of Assessment for Learning.

Through the reflections of the assessment performance of their students, teachers should be able to analyse

the stage of development of their students' learning and devise strategies in to facilitate their individual learning trajectories. This endeavour is dramatically enhanced by digital infrastructures, for example, through the e-portfolio, a teaching and learning portfolio that NIE, Singapore has rolled out progressively since the July 2010.

Looking forward, research programmes are in place to assess current achievements and to scale new peaks of pedagogical excellence. Longitudinal studies have embarked on the evaluation of whether new models of teaching have indeed enhanced our teachers' competencies. We commissioned the Office of Academic Quality Management (OAQM) to assess the readiness of NIE graduates in facing the challenges of the 21st century classroom. We seek a better understanding of the nature of our new generation of teachers, their role in driving digital learning, how have they have advanced as professionals, and the values manifested in their teaching.

An innovative education system is one characterised by a conceptualisation of teacher education as a coherent programme that is not just relevant to 21st century demands, but also aligned to meet national interests. Most importantly, it must be enhanced by continuous international dialogues, such as the rich exchanges taking place at this international roundtable on education.

Note

¹ Professor Lee is referring to the V³SK model, embedded in the Graduate Teacher Competencies (GTC) framework of NIE's pre-service teacher education programme. The full write-up of the TE²¹ report is available at <http://www.nie.edu.sg/files/TE21%20online%20version%20-%20updated.pdf>

ENSURING QUALITY TEACHING AND LEARNING

LESSONS LEARNED FROM FINLAND

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Introduction

In spite of the high international regard for the prioritisation of 21st century skills in Finland, we may still be considered to be a long way from truly being able to change current teaching practices. We continue to face challenges in effecting the desired outcomes we wish to see in promoting active learning amongst students and teachers alike. However, there must be something that we have done right, seeing the hundreds of delegations flock to Finland in search of unravelling the secrets behind educational success.

Finland's success formula in ensuring quality teaching and learning can be analogised to the warm school lunch served to our students. Other than filling the stomachs of our students with hearty food, warm school lunches are symbolic of our deep-seated value of taking care of

the physical needs of all our learners. We provide for the essential human needs of ensuring inclusion and equity for all, and learning thrives because of these favourable conditions. We give students the confidence to strive for academic excellence by levelling the ground and uniting the students, rather than separating them according to their different abilities.

This is one of the most important reasons why Finland's education system is where we are today. Of course, the landmark values that the Finnish education system is renowned for are specific to the historical context that informs the Finnish education leitmotif.

Finnish children, previously, had to decide on their academic or vocational paths at the tender age of 10. This critical decision will determine the path the child

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subsequently treads through later on in life. With the massive changes and upheavals in the 1960s to 1970s for a comprehensive school system, our education structure has since been realigned to the transformations in key political decisions.

One of the landmark transformations was levelling up teacher education by providing a 5-year Master's programme to all teachers, including those in primary levels. Another important decision was the discontinuation of streaming. Having realised that streaming failed to realise the desired learning outcomes, and in fact had contributed to the lowered performance of the disadvantaged low-ability groups, old practices of academic determinism had since become relics of the past. We believe that stellar academic performance is ensured with an inclusive principle for student management and overall development. While levelling up performance is important, it is also important to identify and develop students who are lagging behind.

We rely on a highly integrated wider social support network to enable us to practise our policy of inclusion. Our many welfare groups work hand-in-glove to promote student development and integration. The education system also works to ensure diversity in student performance in one classroom. When resources are allocated to provide strong support for weak students, when all students see themselves as being capable of achieving excellence, academic standards are raised for the entire cohort, and not just for the elite few.

The departure from old practices in student management is also mirrored in the decentralisation of teacher education. Professional autonomy is distributed based on the same principles of equity and inclusion. Finland's teachers are personally accountable for their own professional learning, rather than through top-down assignment processes.

In order to facilitate the recognition of teachers as high-functioning performers with the ability to shoulder

accountability, teachers are accorded with a high sense of autonomy. In upholding this philosophy, there is no achievement testing, probation or inspectorate to monitor teacher performance.

Teachers are also supported by strong trade unions, which provide them with a strong backing in the negotiation of their professional standing. The result is a pool of high quality teachers, with the capacity to customise their teaching in response to complex teaching scenarios. Most importantly, their professional pride is evident in the intense commitment to their profession, despite drawing modest salaries.

Our education system invests in our teachers' personal growth by providing lifelong learning opportunities, flexible professional development structures, and an equitable professional environment such that avenues for obtaining higher levels of education qualifications are always present.

In line with Finland's respect for teacher autonomy, the same regard is also extended to schools. This is reflected in the decentralisation of teaching; learning and curriculum design decisions are a part of local schools' jurisdiction. We commence from the value assumption of equity and inclusivity, where every school is considered an excellent school. In this way, parents are not ridden with unnecessary concerns about which school to enrol their children in, because schools are all given the same leverage to strive for excellence, with resource allocation going beyond the financial to include integrated social and health services.

In order to ensure that our schools are of high quality, we consult a spectrum of stakeholders, including parents, trade unions and private sectors. We work on the basis of a negotiated order, as opposed to a prescribed one. The state government provides guidelines and support in terms of a holistic implementation of reforms to educate our young. The main responsibility, however, is in the municipalities as local actors to integrate various

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LESSONS LEARNED FROM FINLAND

PROFESSOR HANNELE NIEMI

FACULTY OF BEHAVIORAL SCIENCES, UNIVERSITY OF HELSINKI, FINLAND

agencies, such as health and welfare, to work in tandem with schools for high-quality learning opportunities to all children.

In Finland, we take pride in our distinction of giving students and teachers tremendous freedom in determining learning outcomes. As a result, assessments are intended as tools that provide feedback for formative improvements. Following this resolve, we have done away with assessing learning based on national and international testing standards. International testing is viewed as important for improvement purposes, rather than as yardsticks for selection, ranking and publicity. More importantly, we have made a national decision to be reflexive about the ways to improve our national education standards with assessments as mere tools for this endeavour.

There are present challenges reminding us that we should never rest on our laurels. Finland is becoming increasingly multicultural. National strategies and research programmes are also in place in response to the need to integrate information and communication technology into our pedagogical practices. We are also continuing our efforts for a more efficient approach to developing a highly personalised curriculum. Young teachers continue to require new and better ways of mentoring and induction.

I would like to conclude with the argument from my book, *Miracle of Education* (Niemi, Toom, & Kallioniemi, 2012), that there is really *no* miracle in Finnish schools. The closest approximation of a miracle is the outcome of continued persistent, sustainable and coherent work. In addition, an education system that is built on strong foundational values is imperative in safeguarding the consistency of sound education policies that do not change with fads or governments. These conditions are essential for growing and sustaining an excellent education system.

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STAYING ON TOP IN INTERNATIONALLY BENCHMARKED TESTS

SOUTH KOREA'S SECRETS SHARED

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The Tradition, Cultures and Context of Education in Korea

Confucianism

Deeply embedded in the South Korean culture is the underpinning philosophy of Confucianism, which is distinguished by a strong emphasis on education as a channel of social mobility. Parents take pride in their highly educated children and children will do all that it takes to make their parents and family proud.

The Confucian ethic emphasises education and contribution to society. The cornerstone of Confucianism is humanism, the conviction that individuals can be nurtured through personal and communal endeavour. Confucianism focuses on the cultivation of virtue and

maintenance of ethics, the most fundamental being altruism, righteousness and conduct.

Therefore, education is seen as the cultivation of one's character which can be attained through perseverance and hard work. The philosophy is grounded in the belief that everyone has access to success or a better life through pursuing knowledge and excelling in examinations.

Every child is expected to work hard to qualify for university and those who are unable to are marginalised by society. South Koreans' parenting abilities are in turn measured by the university their child is able to enter. Therefore, social pressures, family assistance and the

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SOUTH KOREA'S SECRETS SHARED

PROFESSOR CHO YOUNGDAL

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home environment form the invisible yet powerful force in the South Korean education system which is marked by the presence of the “education fever” (教育熱) and the shadow education industry, that is, private tutoring.

Education fever and preparation for college entrance examinations

The high zeal and demand for education, termed as an “education fever” is a phenomenon resulting from the preparations for college entrance examinations by 18-year-olds in South Korea. On the day of the high-stakes examination (such as the Korean SAT), the entire country comes to a standstill – office hours are pushed back by an hour to ensure that all candidates arrive at their examination venues on time.

Jets are grounded, horns are banned, prayer meetings are held in churches and temples all over South Korea for the candidates. Hotels, hostels and accommodation near the examination venues are packed with anxious candidates and parents who are concerned that their children are well rested and psychologically prepared for the examinations. No expense is spared to secure every advantage for the individual candidates.

Six main perspectives that contribute to the education fever in South Korea are:

- the historical and cultural,
- the social environment,
- the human capital,
- the radical,
- the educational stratification, and
- the educational war.

Shadow education

The preparation for the college entrance examinations fuels the need for the shadow education industry. Due to the demand for additional coaching to ensure that candidates have an edge over their peers, mothers

return to the workforce to pay for tuition fees, which have climbed exponentially over the years, creating a huge burden for South Korean households.

While shadow education has caused many societal problems including the intensified inequalities in education, heavy financial burdens, harmful effects on the mainstream schooling and severe psychological distress in students, parents continue to sustain and even boost the demand for private tuition.

Policies have attempted to equalise student ability and school resources to ensure equality among schools, enhance the quality of public education, prohibit illegal private tutoring practices, and reduce financial burdens of private tuition through alternative forms of private tutoring. Notwithstanding these counter-measures, the shadow education industry continues to exert pressure on students and families in South Korea.

Education system in South Korea

South Korea has a relatively homogenous population and centralised education system governed by the Ministry of Education (MOE). The MOE is responsible for policy formulation pertaining to formal and lifelong education and academic standards. The centralised education system has devolved decision-making to local education authorities over the years. While colleges and universities are directly governed by MOE, regional offices and local councils manage secondary schools and elementary/middle schools respectively.

Respect for teachers

The teaching profession is highly revered by South Koreans. Due in part to its Confucian heritage, teachers are likened to one's parents and highly respected by the society. The top 5% of secondary students aspire to be teachers and they need to seek entry into one of the 45 universities with a college of education. In a recent survey, South Koreans ranked teaching as their top

STAYING ON TOP IN INTERNATIONALLY BENCHMARKED TESTS

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PROFESSOR CHO YOUNGDAL

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career choice in terms of its job security and a relatively late retirement age of 62.

Education Reforms in South Korea

Main concerns of education reforms in South Korea

The chief concern of policymakers and educators is to create an education system that provides equal opportunities for all South Koreans. Due to the unique problems associated with the shadow education/private tuition industry, the government is attempting to provide a level playing field for all through its anti-shadow education industry measures by stepping up public education reforms.

Enhancement of public education reforms

Major anti-shadow education industry measures implemented over the past five decades include:

- No Middle School Entrance Examination Policy (1968),
- High School Equalisation Policy (1978),
- Restriction of Shadow Education (1980), and
- Reforming the College Entrance Examination System and Public Education System (1980s–2000s).

Despite these policies, the education fever continues to exert its unwavering influence over students and their parents.

Enhancement of public education reforms

Public education reforms aim to redefine academic achievements and criteria for a knowledge-based society to ensure that learning in schools remains relevant in the 21st century. They seek to diversify educational programmes and increase school choices to cater to students' career paths and interests. To increase learners' autonomy, they have attempted to change the college admission system by introducing "the self-directed learning category" (自己主导学习) as an alternative form of screening. At the systemic level, MOE

acts as a regulatory body to enhance collaboration and support while increasing autonomy in school operations and increasing their accountability at the local level.

Workings of the South Korean Education System

High-stakes entrance examinations

Most middle school students strive to pass the entrance examinations of select high schools known for their strong affiliation with prestigious universities. To gain admission to these highly competitive schools, students spend many after-school hours in their school to study, meet with tutors, or attend supplementary preparatory classes at private educational institutions.

The education fever does not cease upon admission to high schools. The students devote even more time to studying than in middle school. Although school starts about an hour earlier than middle school, it goes on for longer.

Depedagogisation of education

The term *depedagogisation of education* refers to the education reform that attempts to expand the scope and duties of teachers commensurate with the increasing challenges of the profession. The demand for *multifunctional teachers* (multiple roles of a teacher) requires teachers to assume many new duties and requirements, including the use of ICT in classroom teaching, grouping of students based on achievement levels, conducting performance assessment, and being in charge of after-school programmes.

The scope of a teacher's work has been expanding without corresponding economic support to cover the cost of these education reforms. During the economic crisis in 1997, budget cuts reduced expenditure on public school education from 6% of GDP to 5%, which was inadequate to fully develop the proposed initiatives.

Teachers have become multifunctional in schools in spite of the limited resources. They must be specific-subject

STAYING ON TOP IN INTERNATIONALLY BENCHMARKED TESTS

SOUTH KOREA'S SECRETS SHARED

PROFESSOR CHO YOUNGDAL

DIRECTOR, CENTER OF PUBLIC LEADERSHIP, SEOUL NATIONAL UNIVERSITY

professionals, multimedia-savvy in relation to teaching, able to set standards for performance assessments, able to evaluate diverse tasks of a larger number of students, and have the capacity to be in charge of an after-school programme.

Frustration to overcome standardised teaching and pressure to re-standardise

Due to the reform policies which called for “open education”, “performance assessment” and “high-risk testing”, schools and teachers were swept into these initiatives by the government often without sufficient concrete support. There was a serious backlash in schools, and many teachers became critical of these policies.

Despite the efforts, the policies had no effect on the existing school education system that was linear, hierarchical and had a standardised curriculum. The specificity of the national curriculum did not decrease, but rather it increased. This caused teachers, who saw value in the above policies, to become frustrated, especially in secondary schools.

Growing inequality of education

Studies from the Trends in International Mathematics and Science Study (TIMSS) have revealed the growing impact of socio-economic status on education achievement in South Korea. This implies that students from economically advantageous households are more likely to perform better than their economically disadvantaged counterparts. This phenomenon remains a growing concern for policymakers and educators, especially in light of the slew of counter-shadow education industry policies demonstrating marginal effectiveness of the reforms introduced.

Performance in Programme for International Student Assessment (PISA)

South Korean students have been outstanding performers in PISA tests for reading, Math and Science,

but appear to struggle with higher order (creative and critical) thinking and knowledge application. These findings do point to critical improvements needed in certain areas of South Korean education in order to cope with the demands of the knowledge-based economy.

South Korean Education: Overcoming Barriers and Looking Ahead

Preserving the education fever while eliminating education inequality

Amidst the pressures from various stakeholders, the South Korean education system has achieved impressive milestones. The basis of this success is its “Cultural Model of Success”, which should be preserved. The emphasis on education as a responsibility towards oneself, society and the nation imbibes in children the ethos of excellence and resilience. It implies that harnessing the benefits of the education fever while eliminating its drawbacks on the mainstream education system would point the way ahead.

Education inequality, where students from low-income families are severely disadvantaged, must be mitigated with educational reforms to help the disadvantaged and increase the degree of freedom for potential self-growth.

“Pedagogising schooling” and building innovative education leadership

Another important consideration for South Korean education is the need for a bottom-up policy-making, where education leaders lead transformation within the school system. This calls for communication between schools, teachers, parents and the community at large.

Preparing teachers for a changing world

The 21st century learner demands a 21st century teacher, a consummate leader equipped with intellectual and moral excellence. Teachers must be seen as reflective yet practical researchers, capable of implementing creative educational curricula. Policies and practice should consider ways of strengthening on-the-job

STAYING ON TOP IN INTERNATIONALLY BENCHMARKED TESTS

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training and specialisation, and promoting the social status of teachers.

Importance of education research

The scope of education research should be widened to promote the use of evidence-based research as a premise for policy-making, instead of allowing it to be used as a political tool for policymakers to garner votes. An impetus worth considering is how research can translate back into practice to improve the education system, schools, leadership, teaching and learning practices. Given the political climate in Korea, it is also important to ensure that this research-informed practice can feed into policy-making at the national level.

Conclusion

Looking beyond, a lesson that one can glean from South Korea is the relentless pursuit of knowledge, which is marked by the Cultural Model of Success. While some may view the intense pressure of education as radical, the engagement of the entire nation towards the success of its future ought to be considered deeply. The shadow education industry has resulted in the widening income disparity which demands intervention by the government to ensure equal opportunities for all, especially the less privileged.

Among the policymakers and educators, “pedagogising schooling” and building innovative education leadership becomes a top priority to transform the landscape of schools from an examination-driven factory to a nurturing environment where learning takes precedence over examinations.

Education leadership needs to move beyond authoritative management to harness a culture of innovation and partnership. To prepare teachers for a changing world, their role needs to be redefined from transmitter of knowledge to facilitator of learning in order to equip their students with the skills necessary to thrive in the 21st century.

BLAZING THE TRAIL

HOW HONG KONG CONSISTENTLY STAYS ON TOP OF THE LEAGUE

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The School System in Hong Kong

The school system in Hong Kong can be seen as a hybrid between the East and the West, distinguishing itself from other countries and places. From 2012, the educational structure will change from the British 6-5-2 system (6 years of primary, 5 years of secondary, 2 years of pre-university) to a 6-3-3 system (6 years of primary, 3 years of junior secondary, and 3 years of senior secondary).

Hong Kong has four main types of schools – government, aided, private and direct subsidy scheme (DSS), and international schools. In the current system, only about 6% of schools are totally government-managed and funded. The aided schools, which make up about 72% of all schools in Hong Kong, are partly funded by the government (roughly 85% of the total funding), but

privately managed by non-governmental organisations (NGOs).

The number of private and DSS schools, which constitute about 16% of the total school system, has increased rapidly in the past 10 years due to the privatisation and marketisation of education. Their funding comes partly from the government and partly from tuition fees. International schools form about 6% of all schools in Hong Kong.

Hong Kong's Performance in International Studies

According to the Trends in International Mathematics and Science Study (TIMSS) from 1999 to 2007, Hong Kong and several other East Asian countries/regions like Chinese Taipei, South Korea, Singapore and

BLAZING THE TRAIL

HOW HONG KONG CONSISTENTLY STAYS ON TOP OF THE LEAGUE

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Japan always emerged on top. This is the general pattern in Mathematics performance. In the Programme for International Student Assessment (PISA) study, Hong Kong's 15-year-old students' performance in Mathematics and Science has always been among the top-performing countries/regions. In terms of reading, Hong Kong students have also made substantial improvement. The improvement can be attributed to curriculum reform as well as other reform measures. However, there are still some limitations. For example, compared with Singapore, Shanghai, South Korea and Japan, Hong Kong's percentage of top performers is lower. Students' performance in digital reading literacy is also weaker than other countries such as South Korea.

Factors Related to High Achievers in Hong Kong

Three groups of factors that are related to the high achievement in Hong Kong are as follows:

- Student factor – Reading engagement
- Parental factor – Involvement and investment
- School factor – Balance of decentralisation and centralisation

Student factor

The first group of factors relates to students. For example, reading engagement has improved a lot during the past 10 years. The improved areas include enjoyment of reading, reading time, reading diversity and online reading. These improvements could be attributed to the post-handover education reforms in Hong Kong, aimed at nurturing students to learn how to learn. Here, learning becomes the focus and learners' attitudes are what educators aim to improve. One strategy is the government's investment in setting up school libraries and classroom libraries.

There has also been a major change of the Chinese curriculum. Its traditional curriculum, requiring students to memorise 28 texts, is being replaced by a new curriculum of 300 texts that teachers can use to enhance

the four language skills of reading, listening, speaking and writing. In addition, a different assessment scheme is also being put into place to evaluate students' Chinese reading and English reading.

Parental factor

The factor for success is parents. Parental involvement and investment extend beyond private tutoring to their attitudes towards their children's education. Under the influence of Confucius, parents in Hong Kong also harbour high aspirations for their holistic development. The story of the "Tiger Mother" can be regarded as an example of parental home-based involvement, where parents are willing to commit time, effort and financial resources in the pursuit of their children's academic excellence. However, at present, parents' school-based involvement (e.g., in decision-making) is rather limited.

School factor

The third success factor is related to decentralisation and centralisation. They point to the fact that Hong Kong's education system is headed in the right direction.

Decentralisation refers to school autonomy and teacher participation. The School Management Initiative was introduced in 1991 and later renamed School-based Management (SBM) in 1997. SBM was voluntary in the beginning and became mandatory in the 2000s. Besides the enhancement of school autonomy, teacher participation has also improved significantly during the past 10 years.

Schools in Hong Kong enjoy a high level of autonomy. In the 2000 PISA study, there were two indices. *School autonomy* measured the extent that a school can make its own decisions in 12 areas, and *teacher participation* refer to the authority delegated to the teacher.

The study found that the US had a very high level of school autonomy. In this aspect, Hong Kong was ranked lower than the US, but much higher than the Organisation

BLAZING THE TRAIL

HOW HONG KONG CONSISTENTLY STAYS ON TOP OF THE LEAGUE

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for Economic Co-operation and Development (OECD) average. Hong Kong had a high level of school autonomy in terms of staffing, budgeting, student affairs and curriculum but teachers had little say in terms of remuneration due to a very centralised system.

The level of teacher participation, on the other hand, was not as high as school autonomy in 2000. The same PISA study showed that the level of teacher participation was a bit lower than the international average, suggesting that school autonomy was not delegated to the teacher level.

However, from 2000 to 2009, there was a significant development in this aspect. In the 2009 PISA study, Hong Kong's level of teacher participation was among the top. This meant that teachers could participate in the daily decision-making in schools, particularly in areas like curriculum and student affairs that have a significant impact on students' learning.

Teacher participation seems to be more important than school autonomy for students' performance in Hong Kong as well as in many other countries. Based on the data from the 2003 PISA study, the relative contribution of school autonomy and teacher participation to students' Mathematics performance was examined.

Results from multilevel analysis showed that teacher participation had greater impact on students' Mathematics performance than school autonomy. Further analysis indicated that teacher participation can help to improve the school climate, such as student morale, student behaviour, disciplinary climate, and students' sense of belonging. It explains why teacher participation is a better indicator of students' success in Mathematics performance.

Similar results were found with regard to the correlation between teacher participation and reading achievement across 60 countries. The higher the country's level of

teacher participation, the higher the students' reading achievement was. These research findings convey a clear message to every country that teacher participation is essential for improving students' performance.

While decentralising the system in terms of school autonomy and teacher participation, Hong Kong has centralised the outcomes through monitoring of student learning at multiple levels. One major component of monitoring is the assessment system, the aim of which is to guarantee the quality of education. Various assessments are used to benchmark education outcomes:

- International assessments, which include the Progress in International Reading Literacy Study (PIRLS) and TIMSS (both administrated by International Association for the Evaluation of Educational Achievement [IEA]); PISA (2000–2012) by OECD; International Civic and Citizenship Study (ICCS; 1999/2009).
- National assessment (territory-wide system assessment) of Chinese, English and Mathematics at Grade 3, Grade 6 in primary school, and Grade 9 at the secondary level.
- The public examination and School Performance Indicators System (1998, 2002) measures of value-added cognitive outcomes and assessment of affective and social outcomes.

Results from assessments are analysed to provide feedback to individual schools and teachers. Schools and teachers will delve into the details of the assessments (e.g., item analysis) and collectively discuss how to modify their teaching so as to improve students' performance.

At the school-level monitoring, Hong Kong has put in place a Performance Indicators Framework, which consists of 23 factors. These indicators are grouped into four major domains, namely, *Management and Organisation*,

BLAZING THE TRAIL

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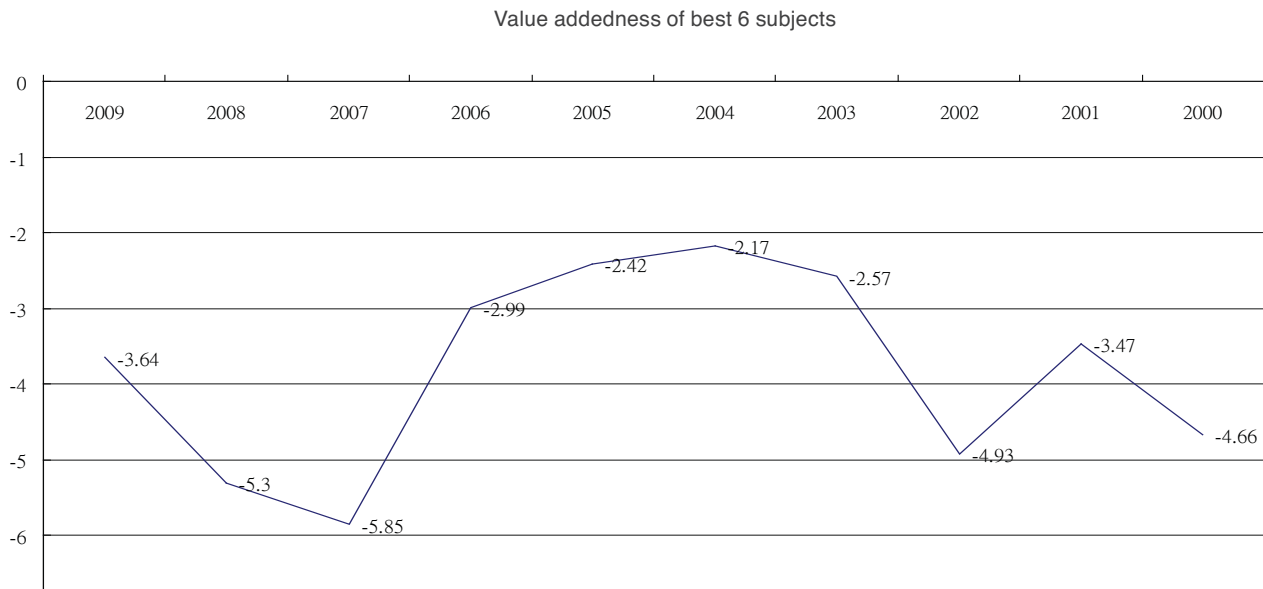


Figure 1: Trend of school performance over 10 years (high-stake value-added measures of public examination since 2000).

Learning and Teaching, Student Support and School Ethos, and Student Performance. These indicators are used to track the performance of schools over time.

One important indicator is students' academic performance. Schools are evaluated based on how they have performed according to the academic intake of the students. Figure 1 presents a school that had always underperformed from 2000 to 2009. In this case, the government will deploy external reviewers to find out more about the school's teaching and learning processes.

Conclusion: Success and Challenges for Hong Kong

The Hong Kong school system is described by its leaders as a "typhoon" (Mourshed, Chijioke & Barber, 2010). Students are put at the centre of the typhoon. The aim of the system is to cultivate student motivation to learn and educate them to learn how to learn. All the different measures and reforms are put in place to ensure a better school system where every student performs equally well. For example, the SBM is implemented to enhance school autonomy and teacher participation.

DSS schools are established to provide more choices and diversity for parents and students.

These reform measures work together towards the same overarching purpose. Although discerning what specific measures are working to make the system more sustainable, maintaining a balance between centralisation and decentralisation is deemed essential.

The Hong Kong school system is highly efficient and effective. According to a report by McKinsey and Company (Mourshed, Chijioke & Barber, 2010), it achieved significant improvement in educational outcomes within only 6 years from 2000 to 2006. The report examined the performance of 20 school systems around the world and mapped their performance stages during this period as *poor to fair*, *fair to good*, *good to great*, and *great to excellent*. By moving from good to great, Hong Kong joined the league of other *great* school systems including Singapore, South Korea, Saxony and Ontario.

In striving to move from great to excellent, the Hong Kong school system has to overcome many challenges.

BLAZING THE TRAIL

HOW HONG KONG CONSISTENTLY STAYS ON TOP OF THE LEAGUE

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One major challenge is how to cultivate active learners. Generally speaking, Hong Kong students are strong in the cognitive area and relatively weaker in other areas such as active learning, passionate learning, and effective learning strategies.

According to the PISA study, Hong Kong students are good at memorisation but their use of elaboration strategies is fairly low. Further, Hong Kong students' use of control strategies and metacognition is not satisfactory, both of which are lower than the international average. To better nurture active learners, educators in Hong Kong can consider taking further action to improve their students' ability to employ effective learning strategies.

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WHAT THE UNITED STATES CAN LEARN FROM THE EAST

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Introduction

Professor Goodwin began her presentation by stressing the importance of understanding the context of the United States, even as the system attempts to learn from its international peers and adapt their productive practices in a contextualised manner for use in the US.

Teacher Quality is an International Concern

Teacher quality is a contemporary global concern. International comparisons are common as international partners engage in knowledge sharing and learning from each other. Educators around the world are talking about teacher quality, improving teacher preparation, and how to make education more meaningful for students.

Research also abundantly informs educators that teaching quality is a key determinant of students' performance. The benefits of good teachers are sometimes more significant than what pedagogical innovations can achieve. This is the global conversation in which educators are engaged.

Conditions and Complexities of the U.S. Context

The U.S. education system is complicated and different from many countries. Its landscape has an impact on what U.S. schools are doing and how well they are doing.

Education for all children

The goal of the U.S. system is to *educate all children*. This goal is incredibly complicated due to the size of its education system. In New York City alone, there are

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1.1 million schoolchildren. These children attend 1,700 schools. A large number of these children also bring vulnerabilities with them. For example, teachers have to deal with children who are homeless or who may be homeless at some point in their lives.

The US is a nation of immigrants and has always experienced large-scale immigration. New immigrant children may be coming from circumstances that are difficult and could place them at risk. For instance, there are secondary school children who have had interrupted schooling. They are old enough for the secondary curriculum but developmentally do not have the years of schooling to support their success in secondary school. Teachers are thus struggling to look for or design curricula that are appropriate for such children.

Providing specialist services in schools is complicated. In the US, schoolchildren come from more than 192 countries and 167 languages are spoken in classrooms. Over one in 10 children speak a home language other than English. Offering bilingual services is not necessarily an adequate solution since it is simply too difficult to run 167 different bilingual services.

Inclusive schooling and classrooms is something that the US has been working on. A large number of students with disabilities are educated in “regular” schools. There are a wide variety of specialist needs in these classrooms, such as students needing sign language interpreters, accommodations for testing, and special tutoring. Different kinds of services and models are needed – and utilised – to support the academic development of these students from pull-out and push-in services, co-teaching models, self-contained classrooms, to total immersion in inclusive classrooms and schools.

Schoolchildren also experience insecurities. The US, like the rest of the world, is experiencing an increasing gap between those who have and those who have not.

Schoolchildren who are in the have-not category face greater insecurities as a result of poverty and inadequate social services, and a lack of health care coverage.

International comparisons are not good indicators

International comparisons have never been a good indicator of what the US is or is not doing well. The US is dealing with many issues in its attempt to educate all children. This affects international comparisons because the U.S. sample always includes a wide range of diverse learners.

Looking back at the Programme for International Student Assessment (PISA) study scores, the US has never performed well. This is partly due to the diversity of the population, and partly due to what U.S. education has prioritised, and what it has not. However, if the data are disaggregated, certain groups of U.S. students from higher socio-economic status levels, for instance, have traditionally performed well, at levels comparable to their high-performing international counterparts in the absence of countless hours and millions of dollars spent on test preparation and drills.

Teacher quality, teaching and learning have been redefined

The No Child Left Behind Act has dramatically redefined teacher quality, teaching and learning in narrow ways. There is an increasing focus on increasing standardised test scores and meeting international benchmarks rather than on the quality of teaching and learning. This is an issue that educators will have to continue dealing with and be concerned about since current policies do not seem to be shifting from that focus.

Education as the new entrepreneurial frontier

Education is becoming the new entrepreneurial frontier. It is now a market-driven economy where there are employment and investment opportunities. A lot of funding is being invested to ensure every child achieves the test results that everyone is looking for. The idea of

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education for learning has been pushed aside in favour of economic imperatives.

Lessons to Be Learned

The U.S. context aside, the country understands that there are many things it needs to learn. There are also other practices that it should cease and initiatives that should be reconsidered. Some lessons (among many others) that the US can learn from its international counterparts are highlighted below.

Repositioning values

The US can learn from Singapore and its V³SK model. This model repositions values at the centre of teaching, learning and teacher preparation. It is important for teachers to have the pedagogical content knowledge as well as the commitment and passion for the profession. Ultimately, knowing how to teach and being able to teach are separate issues. Teachers should appropriate fundamental and universal values to educate students to make meaningful decisions about their lives and for the welfare of the society.

Taking care of all children

The US needs to take care of all its children. It can learn from Finland where every child is served a free lunch throughout her schooling years. Of course, this is not the answer to excellent achievement but it is symbolic of a system that shows empathy and is committed to the care of all children. Paying attention to learning when children's basic needs are not met is counter-productive. This is something that the US needs to work on.

Placing teachers at the centre of educational reform

The US should learn from Hong Kong and place teachers at the heart of educational reform. In the US, economists and policymakers are now the ones driving reforms. Teachers are shut out and the results can be disastrous. The US needs to engage all constituents to

understand what works and what does not – especially teachers who are working on the ground with children and their parents on a daily basis.

Treating teachers as professionals

The US needs to treat teachers as professionals and teaching as a profession, as is clear in South Korea, Singapore and Hong Kong. The US was on its way to professionalising teaching but is now moving backwards. For instance, curricula are becoming more and more scripted, with less and less flexibility and breadth. There are many examples of principals who expect teachers to all do the same thing at the same time, to literally be on the same page in lock-step fashion. Teachers are not treated as thinking professionals, but as workers who need to be managed.

Learning from ourselves

The US needs to re-learn the lessons it has shared with others. It should continue to focus on aspects of teaching and learning, such as project-based learning, professional learning communities, pedagogical content knowledge, and differentiating pedagogies for learners. These are important aspects for lifelong learning that U.S. teachers have moved away from.

U.S. policymakers need to think about the deeper lessons that lie beneath test scores. However, the fact that the US is keen to share knowledge as well as learn from educators all over the world can only result in a more robust education system.

SINGAPORE'S PERFORMANCE IN PISA

LEVELLING UP THE LONG TAIL

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Introduction

Singapore's gap between high- and low-achieving students is not significantly greater than other country. However, Singapore is concerned about this gap as it aims to level up its education system systemically. Looking into Singapore's educational development and levelling up efforts, Dr Teh reflects on these efforts and highlights some questions for Singapore to ponder about.

Singapore's Performance in PISA 2009

In the Programme for International Student Assessment (PISA) 2009 study, Singapore's performance in reading was ranked fifth (OECD, 2010). The four countries that outperformed Singapore (ranked in descending order) were Shanghai, South Korea, Finland and Hong Kong. Singapore is concerned about its wider gap in students' performances between the average score and the

lower percentiles in comparison to these other top four performing countries. On closer inspection, Singapore's gap is, however, not significantly wider than other similar performing countries like New Zealand, Japan and Belgium.

One possible reason that explains Singapore's wider gap, as compared to the top four performing countries, could be that the language of assessment and instruction used in schools is different from that used at home. This gap presents an opportunity for levelling up the Singapore education system. In order to understand Singapore's unique situation, a journey into the past is required.

The Singapore Education System: From Past to Present

Since the 1950s, the Singapore education system has been transformed dramatically. Singapore obtained

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self-governance from the British in 1959 and in 1965, became an independent country. Initially, Singapore had four languages of instruction, that is, English, Chinese, Malay and Tamil. The last three vernacular languages were for students from the respective ethnic groups.

In 1980, due to Singapore's unique geo-political context, English was adopted as the language of instruction in all schools. Academic streaming was also introduced. Today, 62%, 25%, and 13% of secondary school students are spread across three streams – Express, Normal (Academic) and Normal (Technical), respectively. Students in these streams are taught based on the different curricula spanning 4 to 5 years of secondary education.

The evolution of the Singapore education system has experienced huge success. Singapore's gross domestic product increased more than six times from 1980 to 2010 (Singapore Department of Statistics, 2012) in tandem with its more than 10-fold increase in public expenditure on education from about S\$680 million to S\$9 billion.

There have been great improvements in the progression rate of the Primary 1 cohort to secondary education as well as the percentage of those graduating with at least five GCE 'O'-level passes (Ministry of Education, Singapore, 2011).

If we reflect on Singapore's performance in one of the first comparative studies it participated in, the situation in 1983 was very different (Keeves, 1992). At that time, Singapore was ranked fourth from the bottom among participating countries but is ranked above many of these countries today. One of the contributing factors for this vast improvement relates to Singapore's levelling up efforts.

Singapore's Levelling Up Efforts

Since the 1980s, the lower primary curriculum has focused on English Language, Mother Tongue and Mathematics. In terms of curriculum time, 30–40% is

spent on the English language with the objectives of building a strong language foundation and preparing students for higher levels of education.

Besides being given a differentiated curriculum and learning experience, weaker students are allocated more resources than their peers, such as smaller class size and computer literacy classes and computer labs to prepare them sufficiently for work life.

The government's introduction of the "ladders and bridges" approach in its education pathways ensures that lower stream students who subsequently do well can transfer to higher streams. Every year, a small number of students do benefit from this initiative with a significant portion of them eventually qualifying for tertiary education offered by universities and polytechnics.

From the mid-1990s onwards, Singapore started to explore a more targeted approach towards interventions. The Learning Support Programme is a "pull-out programme" for Primary 1 and 2 students who are weak in the English language. These students are taught by specially trained teachers in a class of 5 to 10. This programme has been successful and was extended to Mathematics in 2007.

Singapore started setting up specialised schools from 2007 to cater for the academically weaker students who have failed the Primary School Leaving Examinations more than once. Such students typically fall within the bottom 1% of each cohort. By gathering these students together, schools are provided with additional resources and greater flexibility to offer learning experiences that can better engage them. Feedback from students, parents and the society on specialised schools has so far been positive.

Personal Reflections and Questions for the Singapore Education System

Reflecting on the Singapore education system and current levelling up initiatives, we may conclude that the

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distribution of students' academic achievement seems to be heavily affected by student characteristics, home environment, as well as social and cultural context, factors which cannot be changed by educators or education.

Looking at international comparisons, there was probably a marked improvement in Singaporean students' academic achievements sometime between the mid-1980s and mid-1990s. During this period, the Singapore Ministry of Education's focus was on implementing the streaming policy well; there is, however, insufficient evidence to infer the effect of this policy to overall improvement in students' academic achievements.

There seem to be two assumptions underlying Singapore's levelling up efforts. Firstly, Singapore appears to believe that a differentiated curriculum and learning experience, if implemented efficiently by dedicated teachers using the right resources available, can benefit weaker students.

The second assumption is that equity is about equalising opportunities, not outcomes. The Singaporean approach adapts a pragmatic stance simply because tailoring learning experiences that consider diverse student backgrounds in the hope of equalised outcomes is not practicable. This standpoint is similar to the healthcare industry where the focus is to provide standard quality healthcare and not to equalise healthcare outcomes.

The Singapore education system can ponder on three questions. First of all, considering its lack of resources, Singapore has focused on a differentiated curriculum and learning experience to level up students' academic achievements. Is there a possibility that the delivery of differentiated learning can become more inclusive, for example, in Finland where an inclusive learning experiences may bring about qualitative benefits to students?

Secondly, is there a possibility that Singapore's perspective of equalising opportunities can be augmented by equalising outcomes? Any system that focuses on equalising outcomes faces the risk of becoming desensitised by the differences in learning outcomes for different groups of students. Thus, the differences in learning outcomes become attributed to the students and not the system.

Finally, and more importantly, while Singapore tries to equalise learning outcomes, can the definition of "outcomes" be more embracing, comprehensive and holistic? Attributes that are important cannot always be measured objectively, precisely or scientifically. If the focus is solely on narrowly defined outcomes based on single-dimension test scores, Singapore may not be levelling up students with an ability to leverage more opportunities for a fulfilling life ahead.

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TRANSLATING EDUCATIONAL RESEARCH ON TEACHING AND LEARNING INTO POLICY AND PRACTICE

A COMPARATIVE STUDY OF HOW TOP-PERFORMING SYSTEMS STAY ON TOP

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Introduction

The bottom line drives behaviour, especially in the corporate world and business arena where profits drive competition in the marketplace. Individuals compete with one another for a larger slice of the profit pie so as to maximise their profit margins. In the educational arena, the bottom line principle can still apply but, the definition of what constitutes our bottom line is important.

The bottom line in education is to mould the future, which implies the need to increase the size of the pie instead of contending for a larger slice of an existing pie.

The implication of increasing the size of the pie is that if we educate more people who are equipped with the workforce skills that they need to function effectively in the 21st century global economy, then we are looking ultimately at creating greater economic growth for all.

A high quality, equitable and productive education provision for all requires both collaboration and systemic coherence in order to succeed. Therefore, within the educational fraternity, it is important to acknowledge, appreciate and support everyone and to build a collaborative rather than a competitive environment. If

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we uphold the principle of creating a collaborative culture in education globally, then international benchmarking should allow nations to reflect upon how they can learn from each other rather than be used as a yardstick for measuring one system against another.

Urban Myths Debunked by Evidence – or the Lack of It

Some may challenge the practicality and usefulness of learning from top-performing education systems (TPES) since, arguably, each context differs. Commonly cited success factors of TPES include differences in culture and pedagogical practices such as the focus on rote learning (sometimes with the help of the private tuition or shadow education industry), or a less challenging teaching environment due to homogenous demographics, a small population, or that TPES are designed to groom the elite.

While some of these assumptions may account for the success in some TPES, not all TPES are alike and thus there are fundamental lessons that nations can potentially glean from one another. The process of learning from others, especially from other TPES, appears to be the major reason why these TPES succeed or continue to experience high scores in internationally benchmarked tests of student performance.

Cultural differences, and sometimes the direct or indirect association with Confucianism or Confucian values, are deemed to be one of the many fundamental success factors that Western societies explain how East Asian societies (Hong Kong, South Korea, Shanghai and Singapore) excel in the Programme for International Student Assessment (PISA) study.

Neither cultural differences nor Confucian values, however, can account for Singapore and Hong Kong's

rapid improvement up the international tally for the internationally benchmarked tests. Hong Kong moved from 17th to 2nd position in PIRLS (an international assessment of Grade 4 students' reading literacy) within 5 years. Contrary to the common belief that Hong Kong's success was mainly due to its deeply embedded Confucian values, education reforms in Hong Kong in those critical 5 years were responsible for creating rapid changes in reading literacy.

Another commonly held perception about why TPES outperform other nations in PISA is the assumption that TPES practise a lot of rote learning in their teaching. However, PISA assesses metacognitive content knowledge and problem-solving abilities, and these skills may not be honed through rote learning alone. In fact, rote learning may be a hindrance rather than a help in nurturing such high-level cognitive thinking skills. Therefore, success in the PISA test cannot be attributed solely to rote learning. International research has also revealed that many lessons in Hong Kong require deductive reasoning and this is not easily acquired through rote learning.

The shadow education industry appears to be a huge and profitable industry in Hong Kong, South Korea, Shanghai and Singapore. Some may attribute the success of these countries' education systems to the assistance provided by the shadow education industry. However, upon closer inspection, the shadow education industry is examination-centric and the primary focus of these tuition centres is to help children learn to be exam-smart through drill and practice. There is little pedagogical rigour in many of these classes. They do not prepare or equip the students for PISA questions which assess 21st century thinking skills, and certainly cannot take sole credit for TPES success.

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It is often assumed that TPES are easy to manage due to their modest sizes. Nevertheless, the four TPES in East Asia vary vastly in their overall size. South Korea is much larger than Hong Kong and Shanghai, and has more than 30 times the number of schools as Singapore.

There is the commonly held belief that TPES educate only the elite. However, the reality cannot be more revealing. Educating just the high performers is not going to ensure an overall high performance, and most TPES have lower than 10% high school dropout rates compared to the OECD average of 18%.

Another success factor that others have attributed to the TPES is the homogenous demographics of the population, which makes it “easy” for education innovations to take place via a common language or culture. Singapore, however, deals with diverse ethnicities and multiple languages within its education system due to an inherent multilingual and multiethnic population and the increasing influx of immigrants from around the world. Likewise, Shanghai has to deal with migrants from the rural parts of China and China’s make-up in both multilingual and multiethnic. Therefore, a homogenous population cannot help explain the success experienced by TPES.

Finland seems to be a classic example of why cultural differences, the shadow education industry and Confucian values alone cannot account for the sustained success of TPES in the PISA test. Fundamentally, certain core principles determine their sustained success and in every situation, contextualisation of why and how these principles may work in different systems is critical to ensuring their continued success.

How Do Top-Performing Education Systems Expand the Education Pie?

TPES attempt to expand the future educational pie through international benchmarking in key areas of equity, productivity and quality. They give priority to raising the quality of teachers and the quality of learning, while ensuring that policies are designed with the key principles of providing equal opportunities for all, raising productivity and the overall quality of teaching and learning.

In order to achieve this, challenging educational reforms have to be undertaken, all with a keen eye to balancing between the reforms and ensuring the future economic prosperity of their country.

Upholding the Principles of Equity, Productivity and Quality

In line with the claim that teachers are highly valued, TPES design their education policies in a way that attract high quality candidates, nurture them into effective teachers and build a career structure that rewards good teaching. Understanding that the teaching is highly complex, they support teachers through advocating continual and lifelong professional development.

Likewise, focusing on learning and building teacher capacity, teachers are equipped to diagnose both the individual learning styles and progress of a child’s learning. Mentoring, classroom observation and constructive feed-forward strategies create a more professional, collaborative teaching workforce.

TPES try to design and implement highly effective education systems that are productive, high in quality and equity, and built upon the premise of the existence of a highly qualified and motivated teaching workforce.

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Therefore, TPES centre on providing high quality initial teacher education, and mentoring that continually strives to improve learning and teaching. Teachers are viewed as action researchers, and effective teachers are promoted in recognition of increased responsibilities to ensure quality in teaching and learning.

A key factor determining success or failure is the ability to prioritise their agenda, understanding that within their limited resources, they will need to make room to develop their teachers instead of focusing on tasks that fail to build teacher capacity. To build a successful education system means actively learning from other TPES and customising key learning points to suit the contexts of their own systems and eliminating ineffective practices observed.

The investment in teachers' professional development can be seen through increasing class size so that each teacher has fewer classes and can therefore devote more time for their own professional development. They also pay teachers higher salaries and as incentives for having undergone professional development so that overall expenditure on teaching infrastructure is, in fact, reduced.

TPES are aware that education reforms are complicated and there is a need for reforms to be pervasive in order to attain success. Therefore, TPES aim to use research findings to inform policy-making and to translate policy into practice. TPES also aim to build stable political leadership so that policy consistency can be ensured. They also aim to customise professional development to suit teachers' professional development needs, to recognise effective teaching, and to build in feed-forward systems that can help improve teaching.

In all these efforts, the primary objective is to provide an equitable, effective and high quality education for all its citizens.

Learning Teachers

Effective learning in the classroom is anchored on teachers' mastery of their subjects' content knowledge, good pedagogical skills, effective teaching practices, how they conduct individualised instruction, and their ability to facilitate deep learning. Therefore, active professional collaboration with other educators should be made a priority to continually improve teachers' teaching and personal effectiveness as teachers.

Great emphasis is placed on teachers' learning in the areas of initial teacher education (ITE), induction and mentoring, seeding of research and lesson study groups, peer classroom observations, teacher evaluation and appraisal, and the preparation of school leaders including principals. These focal areas form the foundation for effective educational reform. A high quality teaching workforce reduces the need for accountability systems as teachers can be relied on to be responsible and effective. The paradigm shift from focusing on teachers and teaching to focusing on learning taps into the potential of every teacher. A *learning teacher* is therefore the cornerstone for every TPES.

Initial teacher education

Instead of focusing merely on entry qualifications and enrolment of teachers in ITE, and developing student teachers' pedagogical skills and improving programme content, ITE may have to actively gather feedback from stakeholders, that is, schools in order to enhance their programmes to bring about deep learning and to develop teachers as action researchers who are continually trying to improve student learning.

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The National Institute of Education, Singapore conducts surveys on stakeholders in schools in order to further enhance their ITE programmes. In Finland and Shanghai, all teachers are required to be actively engaged in research and publications in order to progress in their careers.

Induction and mentoring

As beginning teachers often struggle in their initial years of teaching, most schools focus on inducting them by providing a support system that cultivates familiarity with school administrative processes and provides emotional support. In addition to being mentored by veteran teachers through the sharing of their experiences, most schools prioritise their resources to help the novice teacher pass the probationary phase.

In teaching, schools also focus on curriculum preparation and lesson planning to guide the beginning teacher. While these practices are good, they are insufficient to ignite the passion for teaching and the ability of teachers to continue learning.

To nurture a learning teacher, advice on appropriate teaching techniques and constructive feedback based on frequent classroom observation should be provided to these teachers by multiple specialist mentors regularly. A beginning teacher could be given opportunities to observe a mentor's classes in order to pick up "tricks of the trade" on the job. Schools should intentionally develop new teachers as action researchers through lesson studies and classroom observations.

Research and lesson study groups

While teachers meet in groups and networks organised either within a school or across different schools to exchange materials and to engage in collaborative

learning, research and lesson study groups in schools can foster deeper learning in teachers through team teaching and lesson study. When teachers work together to monitor students' progress as a team, they develop skills of inquiry-based practice and are motivated to engage actively in action research that helps them to improve their pedagogical practices.

Classroom observations

The stigma associated with classroom observations is embedded in almost every teacher evaluation system due to the practicum or field experience. Feedback from these observations usually focuses on how teachers have performed in delivering a lesson to their students. However, focusing on teaching or the teacher per se will neither heighten the learning of students nor translate into deeper learning. A stronger emphasis is needed for teachers to observe students' learning, monitor their progress and their individual learning needs in order to gain a deeper understanding of their learners and their learning styles. This makes teachers better equipped to help their learners learn better.

Teacher evaluation and appraisal

It is important to channel efforts to the development of teachers rather than to put in place an evaluation system that is designed to "catch" and redress bad practices. While teachers who struggle should be given help, it is vital to send an important message that professional development, mentoring and classroom observation are practices for all and not just for underperformers or overachievers.

A positive culture and environment nurtures teachers to grow instead of instilling fear which inhibits innovation, research and creativity in the classroom. Continual appraisal and feedback for teachers needs to focus on

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students' learning and progress, and on catering to the individual learning needs of students rather than merely as a yardstick to measure teachers' performance. Teachers that have shown the ability to improve student learning should be deployed to more classrooms in order to develop other teachers.

School principal education

Leadership in school is the lynchpin that determines whether a focus on teacher learning can be implemented effectively in schools. From school management and administration to instructional leadership in the areas of curriculum and professional development, principals today need to lead cultural and mind-set changes to improve learning and teaching in schools.

School principal education and preparation will need to address the learning needs of the principals and to develop the competencies needed to lead and develop teachers well. Emphasis should be in areas of induction and mentoring, classroom observation, action research and lesson study groups, and teachers' career trajectories, for example.

Research as a tool to sustain educational achievement

Research offers insight for educators and policymakers to sustain educational achievement by providing an evidence base for the design and implementation of policies, careful monitoring and measurement of practices on the ground, and understanding the issues at the school and classroom levels that require attention.

Conclusion

Revisiting the analogy of pie expansion, a country's capacity is largely determined by the competencies of its workforce. Therefore, there is a pressing need for every

education system to invest in its citizens by developing a learning teacher and building an equitable, effective and high-quality system for all through collaboration.

However, observing the high unemployment rate in South Korea and brain drain of TPES, one wonders if TPES are "over-educating" or underutilising the skills of its citizens. Would there be a need to create more jobs and opportunities for economic growth? How can countries with a highly qualified workforce maximise their productivity? What are the challenges and opportunities that juxtapose with technological advancement and globalisation? What is the impact of language on learning and economic development of a nation? These questions are indicative of greater issues that lie ahead for TPES and their governments.

Potentially, some can be solved by education, others demand greater partnership in and between nations. Governmental bodies can provide the platform for meaningful dialogue to take place. A small step in the right direction is afforded by a gathering of international experts on education in the exchange of ideas in a symposium such as this.

AN EMERGING MODEL OF THE CHINESE UNIVERSITY

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3 MAY 2012, CJ KOH PROFESSORIAL LECTURE, NIE, SINGAPORE



Introduction

In recent years, China has been quickly emerging as a major world power. Economics and politics aside, China's higher education sector has also seen dramatic changes in the last decade. Within a short span from 1999 to 2005, China's universities expanded their enrolment from 5 million to 25 million students.

What is China's civilisation bringing to the world? What kind of cultural influence is it going to have? It is important for us to reflect on the role of the universities in this process. They need to be a part of the visioning for the future – to play a cultural role and to bring China more fully into the global community.

The questions are not simply about how the massification of higher education has changed the university, but what is coming out of it. What is China's civilisation bringing into a world that needs new thinking and new ideas? And are Chinese universities ready to explain their culture to the world?

This lecture presents some of the findings from a research project on the changes that had come about in China's higher education as a result of its move to mass higher education. The findings have been published in a volume entitled *Portraits of 21st Century Chinese Universities: In the Move to Mass Higher Education* (Hayhoe, Li, Lin, & Zha, 2011).

AN EMERGING MODEL OF THE CHINESE UNIVERSITY

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Chinese Universities' Move to Mass Higher Education

The research project was an effort to understand how China's universities have been transformed through the move to mass higher education in the early 21st century.

How has the move to mass higher education affected the diversity of the system, as well as equity of access and provision? How did it stimulate civil society in China? What kinds of cultural resources are Chinese universities bringing into the global community? These were the research questions we were concerned with.

To find answers, a case-study approach was adopted, inspired by the work of Burton Clark on *The Entrepreneurial University*. Twelve case universities were chosen from across China representing a mix of different types of institutions from major geographical regions (see Figure 1).

We wanted to identify the contours of an emerging Chinese model of the university, and see whether it could be interpreted in relation to the continuing factor of China's cultural and scholarly traditions.

Base data was collected on student enrolments, finance, faculty and research. Key documents on the universities' mission statements, curricular changes, research policy, projects and funding were amassed and analysed. Interviews were conducted with officials and scholars at the national and regional levels, as well as leaders within the case universities. Also focus-group meetings were held with faculty and students. A survey of 2,400 students was also carried out.

In addition, we wanted to find a visual expression for the university ethos. We wanted to paint a holistic picture of how different institutions are dealing with the opportunities, threats and challenges of rapid massification since 1999. University leaders, faculty members and students were thus asked to identify a building or campus space that they felt best expressed their university's spirit and why these had become "places of the heart".

This lecture focuses on 6 of those 12 universities: Peking University (Beida) in Beijing; East China Normal University (ECNU) in Shanghai; Huazhong University of Science and Technology (HUST) in Wuhan, Hubei Province; Xiamen University in Xiamen, Fujian Province; Northwest University of Agriculture and Forestry (NWAUFU) in Yangling, Shaanxi Province; and Yanbian University (YBU) in Yanji, Jilin Province.



Figure 1: Map of the locations of the case universities in this study.

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Portraits of 21st Century Chinese Universities

When you do a case study, you suddenly become an artist. A university is such a complex organisation of so many individuals, with a campus space and buildings, that have developed over historical time. These were some of the portraits that emerged.

Peking University (Beida)



Figure 2: Unnamed lake in Beida.

Beida calls itself the leader of Chinese culture. “Leading culture” is both a historical mandate and the first phrase in the university’s new mission statement. Faculty members feel a sense of responsibility to take up the role of being critical purveyors of the Beida mission of leading culture wherever they go. Beida students also feel very much that they have strong international connections and a role of bringing Chinese culture to the world though they are hesitant as to where they have to go with that.

There is a tension between preserving their inner essence on the one hand – as seen in the classical architecture amid modern new buildings – and reaching out to society on the other. With regard to the latter, Beida has responded to needs in many areas with new professional degrees which are quite different from what they had done in the past. While keeping its pure

sciences and arts, Beida now offers hi-tech engineering and has embraced a major medical university through a merger. Their students are trained not to accept orthodoxy and but to move into new areas in the social sciences as well as natural sciences.

East China Normal University



Figure 3: Arts and History Building in ECNU.

ECNU was established as a normal university in 1952, with a historic mandate for teacher education. It was given the heritage and campus of a major private university from the Nationalist period. While education is a core focus, there are also advanced programmes in the sciences and humanities, and education serves to integrate these diverse fields. Being a national university under the Ministry of Education, ECNU also has strong support from the Shanghai government.

ECNU may have to struggle for recognition in the Anglo-American world where the tradition of the normal university has disappeared, but their students take pride in the impact they have had, not only in teaching and education, but also in the sciences and humanities. A lot of famous literary figures have been nurtured on its campus. This is reflected in the students’ choice of the Arts and History Building as their favourite place on this urban campus.

AN EMERGING MODEL OF THE CHINESE UNIVERSITY

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Huazhong University of Science and Technology



Figure 4: South Building in HUST.

Established in 1952, HUST is an engineer's paradise. The physical campus has clear, linear paths to orient yourself to the campus surroundings easily. It also offers very advanced engineering programmes, which attracts very good students, including a lot of rural students.

They see themselves as the microcosm of New China, leading change. It rose from being unknown before the Cultural Revolution to being a leader, particularly in the late 1970s and early 1980s, and has remained very strong. Besides bringing Chinese culture to the world, the students are keen to share their experiences of reform and innovation with the world.

Xiamen University

Xiamen University is a comprehensive university sitting right on China's southeastern coast. The campus boasts beautiful Fujian-style architecture. The legacy of the university's founders and scholars remains strong even after the establishment of a new campus for the first 2 years of undergraduate study. Most of the students have a strong familiarity with the university's history.

Recognising its limitations, Xiamen University does not try to be Beida, but instead has built connections with

a consortium of other universities also located near the ocean. Though marine studies is one of its focal areas, economics is one of their strengths, while having China's leading centre of higher education research.



Figure 5: Jiannan Auditorium in Xiamen University.

Northwest University of Agriculture and Forestry



Figure 6: The 93 steps in NWAUFU.

NWAFU was formed from a merger of two universities and five research institutes. Although a comprehensive university, NWAFU has chosen to stay close to its roots in agriculture, partnering universities in the West to focus on all aspects of food production, learning and research.

AN EMERGING MODEL OF THE CHINESE UNIVERSITY

PROFESSOR RUTH HAYHOE

3 MAY 2012, CJ KOH PROFESSORIAL LECTURE, NIE, SINGAPORE

An old staircase of 93 steps is an emblem of their ethos: perseverance, commitment and hard work. They recognise that it has taken huge effort to build this institution.

Yanbian University



Figure 7: Main gate in YBU.

YBU is a major institution in China's northeast that serves a minority Korean population. The university was originally provincial level, mainly serving the local Korean community by training local officials and teachers who could teach in Korean. Originally, it did not have a very high status, but they managed to be included in the Project 21/1, which provides financial support for 100 leading universities to reach world standards.

The students love the main gate, which has Korean words on one side and Chinese on the other. In a sense, it represents the exchanges with South Korea and the opportunities that come from being bilingual in Korean and Chinese. They have managed to build a multicultural university by integrating Chinese and Korean studies, while emphasising English at the same time.

Core Characteristics of Chinese Universities

Looking at these universities, it is striking how they have certain core features that can be found among all,

and yet have preserved diversity. How has that been possible, and what kind of “unity in diversity” can be found in the Chinese model of the university?

The common features may be interpreted with reference to their shared Chinese heritage. There is much integration in the views of knowledge – between theory and practice, and across disciplines. There is also a very strong emphasis that knowledge has to be expressed in action. It is not enough to have new theories and new contributions to basic understanding; there is a very important emphasis on action and also a strong sense of moral purpose.

At the policy level, the move to mass higher education gave universities greater autonomy at both the institutional and provincial level. This autonomy has been protected by law since 1998. There is an intellectual freedom that is somewhat different from the Western notion of academic freedom. Autonomy is viewed as “self-mastery” or *zi zhu* (自主) rather than “self-governance” or *zi zhi* (自治).

The diverse characteristics are a result of the different visions and strategies each university has adopted, with the increasing autonomy from the central government control they have enjoyed. They also reflect the institutions’ distinctive histories and geographical settings.

National policy has a part to play in maintaining diversity, in some cases enabling by providing funding for universities like YBU, and in others constraining by forbidding normal universities like ECNU to merge.

With this fundamental restructuring has also come a fundamental shift in financing. There is greater input from students and their families. Findings from the student survey showed that this expanded access was

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greatly welcomed by students and families, though some inequities of participation have been sharpened.

Conclusion

So what is the emerging model of the Chinese university?

Given greater autonomy from the central state government, each of these universities took a different route, yet we see much unity in diversity. We also see a unique blend of autonomy as self-mastery and intellectual freedom, where there is an interactive relationship between the university and the state.

In time to come, will we see an integration of the Chinese notion of autonomy and the Anglo-American way of viewing the university as totally separate from the state? Can the Chinese university integrate both Chinese and Western concepts of relations between the university and the state?

Only time will tell.

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About the CJ Koh Professorial Lecture Series

The *CJ Koh Professorial Lecture Series* was launched by the Office of Education Research in 2011. It was conceptualised for the purpose of knowledge building and sharing with our internal, external and international stakeholders in education, who can benefit from the information shared during each CJ Koh Professorship visit.

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