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# Paving the Fourth Way: The Singapore Story

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# FOREWORD TO THE ROUNDTABLE REPORT



On behalf of the entire CJ Koh Professorship committee and members of the secretariat for the Fourth Way Education roundtable held on 1 March 2011 in conjunction with the CJ Koh Professorship appointment of Professor Andy Hargreaves, I am pleased to present the carefully consolidated roundtable report made possible by a truly dedicated secretariat team. The purpose of this report is to ensure that the discussions of that fruitful day reach out to the National Institute of Education (NIE), the Ministry of Education (MOE) and wider community for the purpose of adding to our understanding of both the local and global educational landscape, to provide ideas for further research and potential to inform future educational policy and practice.

To provide a context to the inception of this Fourth Way roundtable that eventually saw its fruition on 1 March 2011, there is a need to acknowledge the endowment

that made the visit of Professor Andy Hargreaves a reality. Professor Andy Hargreaves was appointed as the CJ Koh Professor from February – March 2011. The CJ Koh professorship appointments have been made possible through a donation of S\$1.5 million to the Nanyang Technological University Endowment Fund by Mr Tiong Tat Ong, executor of the late lawyer Mr Choon Joo Koh's (C J Koh) estate. The endowment serves the programme of the CJ Koh Professorship in Education. An additional sum of S\$500,000 was donated to the endowment fund for the awards of the Pradap Kow (Mrs C J Koh) Scholarship in Higher Degrees in Education. Since its inception and the appointment of the first CJ Koh Professor in 2006, the professorship series has allowed for the appointment of world renowned professors of Education from as far as the United States, United Kingdom and Europe for example. The ultimate goal of the professorship series is to enable healthy exchange

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of ideas between these world renowned professors and our local scholars and in so doing, to plant the seeds for joint research, publication and collaboration possibilities.

Planning for Professor Andy Hargreaves CJ Koh appointment began as far back as 2009 in Boston in a Japanese restaurant along Beacon Street. Professor Hargreaves shared that he had just published a new book with co-author Professor Dennis Shirley entitled, “The Fourth Way.” He also expressed interest to tie in his CJ Koh professorship visit with collecting data that may be useful for a case study chapter in another forthcoming book with Dennis Shirley featuring Singapore as one of the successful education systems. At this point, we then jointly mooted the idea of a Fourth Way roundtable featuring different stakeholders in the Singapore Education system and getting them to comment about their respective spheres of influence in the light of how it demonstrated that Singapore was very much an exemplary case study of being in the Fourth Way. We then discussed the appropriate personnel to include from the different educational stakeholders in Singapore, namely, from within the National Institute of Education which currently prepares all pre-service teachers for Singapore’s schools and also key personnel representing the Ministry of Education. The list of distinguished panellists were then finalised by NIE Director Professor Sing Kong Lee and the Dean of Education Research Professor Wing On Lee whose office oversees the CJ Koh Professorship administration.

In sending out e-mail invitations to the distinguished panellists that you see in this roundtable report, the first question posed to me by nearly all of them was, “What are the first three ways?” I felt that this question can only be accurately answered if I got it from the horses’ mouths and I attach below, a verbatim summary prepared by both authors, Hargreaves and Shirley which I will put in quotes,

*“Educators and policy makers increasingly recognise that the old ways for effecting social and educational change*

*are no longer suited to the – fast, flexible, and vulnerable new world of the 21<sup>st</sup> century. In The Fourth Way, Andy Hargreaves and Dennis Shirley examine the three ways of change that have defined global educational policy and practice from the 1960s to the present and offer a new Fourth Way that will lead to remarkable leaps forward in student learning and achievement.*

*The work shows that the First Way of state support and professional freedom led to innovation and new social movements, but also uneven school performance, inconsistent leadership, and educational improvements informed by intuition and ideology rather than evidence. The Second Way of competition and educational prescriptions – in which innovation gave way to standardisation, uniformity, and inequity – led to great costs in teacher motivation, leadership capacity, and student learning. The Third Way attempted to balance professional community with accountability, but has instead become overly preoccupied with collecting, analysing and tracking students, teachers and schools with endless quantities of data. This is now the dominant reform strategy in many regions; short-term, quick-fix solutions designed to produce instant lifts in achievement scores prevail over long-term, innovative and sustainable reforms for the 21<sup>st</sup> century.*

*The Fourth Way draws on first-hand and rigorous research evidence of outstandingly successful practice from across the world to offer a vision and a plan for a more successful, challenging, and sustainable educational future. From top-performing Finland to the impressive achievements of community engagement in America; from the most turned-around school district in Britain to a dynamic network of 300 high schools that lifted achievement dramatically by helping each other rather than responding to heavy-handed interventions from the top; and from the conservative-controlled yet innovation-oriented province of Alberta to union-driven reform movements in California – this book shows what works well, why it does so, and what we can learn about*

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*forging new and better paths of educational change.*

*The Fourth Way is informed by a strong sense of history, some of the world's most influential policy theory, and the authors' own painstaking evidence. The Fourth Way has already generated widespread discussion within the education field. Linda Darling-Hammond calls it – an engine for change in the years to come. Michael Fullan says it is – a powerful 'catalyst for coherence' in a field that badly needs guidance. Anthony Giddens, author of the Third Way and intellectual guru for President Bill Clinton and Prime Minister Tony Blair, agrees that the Third Way has reached its limit and that it is time to engage with the Fourth Way of educational and social change.*

*Hargreaves and Shirley are now working on their sequel book and project – Fourth Way in Action. Through their upcoming sabbatical visits to Singapore, they will be meeting educators at all levels to understand and learn from Singapore's historically high achievements on international tests, its entry into the more creativity oriented-tests of PISA, and the nation's unique and world-leading system-wide commitments to innovation and creativity. As part of this visit, they would like to engage with system leaders up to the very highest level and hope that in turn, system leaders might benefit from their research and strategic work from around the world, and also Hargreaves' recently completed study of high performing organisations in education, business and sport, and the leadership and change lessons that run across them."*

Hargreaves & Shirley 2011: Personal Communication

This roundtable has spawned many other related research publications and this report is only the first of the publications to appear. It remains now for me to thank all who have made the roundtable and this report possible. To NIE Director Professor Sing Kong Lee and Dean of Education Research Professor Wing On Lee, thank you for being totally supportive of this endeavour

from start to finish and for releasing the funds from the sponsorship to make both the roundtable and the publication of the report a reality. To our distinguished panellists, in alphabetical order, Professor S. Gopinathan, Professor Andy Hargreaves, Professor Sing Kong Lee, Professor Wing On Lee, Associate Professor Pak Tee Ng, Dr Chew Leng Poon, Professor Oon Seng Tan and Mr Siew Hoong Wong; a huge debt of appreciation goes out to all of you, many of whom hold senior management positions within the Singapore Educational Scene and who still carved out the entire day to contribute to the success of the roundtable. Thanks also to Office of Education Research (OER) administrative team Mr Aaron Chong and also Mr Ran Ao for his assistance in audio-recording the entire symposium. Thanks are also due to Head, Public, International & Alumni Relations (PIAR) Ms Patricia Campbell for advice about the venue set-up, catering, photography, videography and the all-important talent release forms. What would a roundtable be if there were no participants? To the invited participants, thank you for making time to attend the roundtable and for your insightful questions and contributions. Finally, this roundtable report would not have been possible without the excellent secretariat team which supported the writing from the very rough first drafts to the final product you see today, Research Assistants (in alphabetical order), Mr Chenri Hui and Mrs Audrey Lam and also to Head, Strategic Planning & Corporate Services (SPCS) Ms Jennifer Joseph and her lovely team of Assistant Heads, Ms Joy Atienza and Ms Sharon Chng. On that note, we proudly present, "Paving the Fourth Way: The Singapore Story" roundtable report for your reading pleasure.

**Associate Professor Ee Ling Low**  
**Discussant, Fourth Way Education Roundtable**  
**August 2011**  
**Singapore**

# ABOUT THE CJ KOH PROFESSOR



**Professor Andy Hargreaves** is the Thomas More Brennan Chair in the Lynch School of Education at Boston College. He has been awarded visiting professorships in the US (Regents Professor, University of California, Santa Cruz), Canada (Noted Scholar, University of British Columbia), the UK ( University of Nottingham, University of Manchester and the Institute of Education in London), Hong Kong (Onwell Fellow), Sweden and Japan (awarded by the Japan Society for the Promotion of Science). Professor Hargreaves is Editor-in-Chief of the *Journal of Educational Change*. He is leading editor of the first and second International Handbooks of Educational Change, published in 1998 and 2010. He has authored or edited more than 30 books (all but three of them with other colleagues). A number of these have achieved outstanding writing and book awards from the National Staff Development Council, the American Educational Research Association, the

American Libraries Association and the American Association of Colleges for Teacher Education, and are translated into many languages.

# ABOUT THE PANELLISTS



**Professor S. Gopinathan** is currently Professorial Fellow at the Curriculum, Teaching & Learning (CTL) Academic Group at the National Institute of Education, Nanyang Technological University of Singapore. He served as the Dean of the School of Education (March 1994 till June 2000) and was the former Dean of Initial Teacher Training (July 2000 till June 2003). In 2003, he helped NIE establish a Centre for Research in Pedagogy and Practice. He has served on various MOE review committees and was a Resource Specialist for the Government Parliamentary Committee on Education, as a consultant for the Singapore Teachers Union, and a Board Member of the Singapore Examinations and Assessment Board. His research interests span teacher education, higher education, values and citizenship education, and education development. He is founding editor of the *Singapore Journal of Education*, serves on the International Advisory Board of the *Asia Pacific Journal of Education*, and co-edits the *Routledge Critical Studies in Asian Education*.



**Professor Sing Kong Lee** is concurrently the Director of the National Institute of Education (NIE), Singapore and the 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 and in 2007, 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 NUS Distinguished Alumni in Science Award (2009) and most recently, Professor Lee was awarded the Public Administration Medal (Gold) in 2011 by the President of the Republic of Singapore.



# 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 (WCCES), and Honorary Professor of Education at 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 Medal of Honour from Hong Kong Government in 2003, and the Hong Kong Soka Gakkai Association International (HKSGAI) 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 for a number of universities in the UK, the USA and Chinese Mainland. He has served as a consultant for World Bank and Asian Development Bank projects, and is at present a member of the International Advisory Board of Mongolian Education Alliance.



**Associate Professor Pak Tee Ng** is the Associate Dean for Leadership Learning at the Office of Graduate Studies & Professional Learning, National Institute of Education, Singapore and concurrently, an Associate Professor of The Policy and Leadership Studies Academic Group. He teaches in the programmes for school leaders (Principal-ship and Head-of-Department-ship) and postgraduate programmes for research candidates (Master, EdD and PhD). Associate Professor Ng is currently an Editor/Editorial Board Member of several international refereed journals. He was recently a Visiting Fellow at Cambridge University, UK and a Visiting Scholar at Boston College, USA.

# ABOUT THE PANELLISTS



**Dr Chew Leng Poon** is the Deputy Director for Research and Evaluation at the Planning Division, Ministry of Education, Singapore. She is concurrently appointed as Lead Specialist in Research and Curriculum. Dr Poon has a wide range of school, curriculum and policy experience. She has taught A-level Chemistry, been in various school leadership roles and spent 6 years in curriculum policy development before taking on her current roles. Currently, she is involved in several international studies – including the Programme for International Student Assessment (PISA), Trends in International Mathematics and Science Study (TIMSS), and Assessment and Teaching of 21<sup>st</sup> Century Skills (ATC21S).



**Professor Oon Seng Tan** is Dean of Teacher Education, overseeing Singapore's Initial Teacher Preparation (ITP) programmes. His areas of research include cognitive psychology and problem-based learning (PBL) for which he is known internationally. Professor Tan is a board member and reviewer of many international journals based in the UK, USA, Australia and Asia. He is the Immediate Past Presidents of the Asia-Pacific Educational Research Association (APERA) and Educational Research Association of Singapore (ERAS). He is the Vice-President (Asia and Pacific Rim) for the International Association for Cognitive Education and Psychology. He is also a governing board member of SEAMEO Regional Centre for Higher Education and Development and also a director of the Singapore Examinations and Assessment Board. In 2000, Professor Tan won The Enterprise Challenge (TEC) Innovator Award from the Prime Minister's Office of Singapore for co-pioneering a project on Innovation for the Knowledge-based Economy. In 2010, he was awarded honorary lifelong fellowship of APERA.

# ABOUT THE PANELLISTS



**Mr Siew Hoong Wong** is the Director of Schools in the Ministry of Education, Singapore and oversees the management and appraisal of schools in Singapore. He has served in the Singapore Education Service in various professional capacities in schools and in Headquarters, including being a Principal of Tanjong Katong Secondary School and Raffles Institution. Mr Wong was conferred the Public Administration Medal (Silver) by the President of Singapore. He currently sits on various boards of organisations such as the National Institute of Education, the Health Promotion Board and the Yong Siew Toh Conservatory of Music.

## ABOUT THE DISCUSSANT



**Associate Professor Ee Ling Low** is the Associate Dean for Programme and Student Development at the Office of Teacher Education, National Institute of Education, Singapore and concurrently, an Associate Professor of English Language and Literature. Previously (2004–09), she was the Sub-Dean for Degree Programmes. She obtained her PhD in Linguistics from the University of Cambridge, UK under the 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 2008–10, 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.

# THE FOURTH WAY

## PROFESSOR ANDY HARGREAVES

BOSTON COLLEGE



*The fourth way is about seeing students as partners in change and partners in leadership. It's about an approach to teaching which is not just the implementation of a script, or a hardened response to an external demand, nor teaching for the test, but it's what Dennis Shirley talks about as "mindful, thoughtful, deep, engaged, questioning, critical, challenging teaching and learning."*

In his opening presentation for *Paving the Fourth Way: The Singapore Story* Education Roundtable held on 1 March 2011 at the National Institute of Education, Singapore, Professor Andy Hargreaves sets the stage for the proceedings of the day. He opens the roundtable

by outlining the first three waves of change, termed The First, Second and Third Way that defined global educational policy and practice since the 1960s. The present day picture, which he calls the Fourth Way, is characterised by inspiring success stories of educational leadership and change that has led to remarkable leaps forward in student learning and achievement.

*The Fourth Way* is the title of a book by Professor Hargreaves and his co-author, Professor Dennis Shirley. In that book, they examined over three decades worth of research evidence on educational change, gathered from a range of high schools in the United States and Canada. A major trend that emerged from this study was that many schools made dramatic changes which corresponded with major changes taking place in social policy. Hargreaves' and Shirley's conclusions were also shaped by their study of high performing education

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systems in different parts of the world, at the country, school, school district and network levels.

### 1.1 The First Way

*The First Way* of educational change lasted from the end of World War II to the mid-1970s. There was a prevalence of bottom-up government support accompanied by massive expansion in secondary and higher education. Governments regarded investment in education as being worth the money rather than seeing it as a drain on the economy. It fuelled the belief that once a particular government apportioned resources to education, the professionals could be trusted and left alone to get on with their job, without interruption or intervention. To a certain extent, the First Way was driven by principles of equity, justice and inclusion. In some ways, it was very disciplined, experimental and innovative. However, because innovation occurred in pockets, much of it did not effectively permeate globally. There were also huge variations in focus and quality and a lack of cohesion at the top. The First Way reached its limit when the money started to run out during the first oil crisis. Governments cut back their investment in education. The public began to question the success and the impact of the educational policy in this particular age. In Hargreaves' and Shirley's own words, as reported in the foreword to this report, "the *First Way* of state support and professional freedom led to innovation and new social movements, but also uneven school performance, inconsistent leadership, and educational improvements informed by intuition and ideology rather than evidence."

### 1.2 The Second Way

From the mid-1970s to the late 1980s, education policy moved into a second age where governments believed that what they needed was more tightness, more control, more regulation, and more competition. The driving forces behind the Second Way thinking were Ronald Reagan and Margaret Thatcher, whose ideology was about moving as many resources as possible from the state to the market. In the Second Way, emphasis

was on making the market do whatever it could do and outsourcing education services to private bodies to reduce the cost of public expenditure. However, the government still set firm, clear and high standards of performance. Underneath this heavy top-down government control, there were many parties competing with each other for advantage, such as parents trying to find the best schools that would give the best advantages for their children. The publication of school ranking and performance league tables ran schools against each other. However, there was little bottom-up support in terms of resources and materials. The result was a lack of trained teachers, and the quality of teaching began to fall in many places. This led to enormous costs in student learning, teacher motivation, quality of teachers, and the quality of leadership within the schools. Again, to summarise the Second Way, in the authors' own words as quoted in the foreword, "The *Second Way* of competition and educational prescriptions - in which innovation gave way to standardisation, uniformity, and inequity - led to great costs in teacher motivation, leadership capacity, and student learning."

### 1.3 The Third Way

Following the First and the Second Way, the Third Way is best considered as something in between, but certainly moved beyond the first and the second ways in theory. In practice, the government still set the goals and targets, in fact sometimes more strictly than those in the Second Way. Although there was top-down pressure, there was also more bottom-up support. For example, extensive training and professional development for teachers were provided. There was also an increase in lateral interaction to re-energise the teaching profession and its leadership through emphasis in professional development, which in turn spurred the growth of professional learning communities, and professional networks where teachers could learn from teachers, and schools could learn from other schools over time.

At some point however, like the first two ways before it,

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the Third Way found itself in a conundrum. Three paths distraction can help elucidate why the Third Way lost its bearings.

i. **The path of Autocracy:** Although the Third Way emphasised professionalism, governments, however, got more autocratic, more centered on accountability, and became increasingly more intrusive. Educational goals were more tightly focused on literacy and numeracy, leading to schools and teachers becoming less creative and innovative with the curriculum.

ii. **The path of Technocracy:** There was an obsession with data in the education system. Policy makers believed that if they have more data in real time about more people, they would be able to know what every teacher was doing in every school right at that moment. It was believed that all achievement gaps could be detected from data, and too often, schools and school systems misused and misinterpreted data and research evidence.

iii. **The path of Effervescence:** Professional learning communities were often mandated on teachers. They were supposed to be places where teachers could engage in lively discussions about teaching and learning. Instead they became meetings about numbers, test results and quick fixes rather than long term engagements with transformation around deeper goals about teaching and learning.

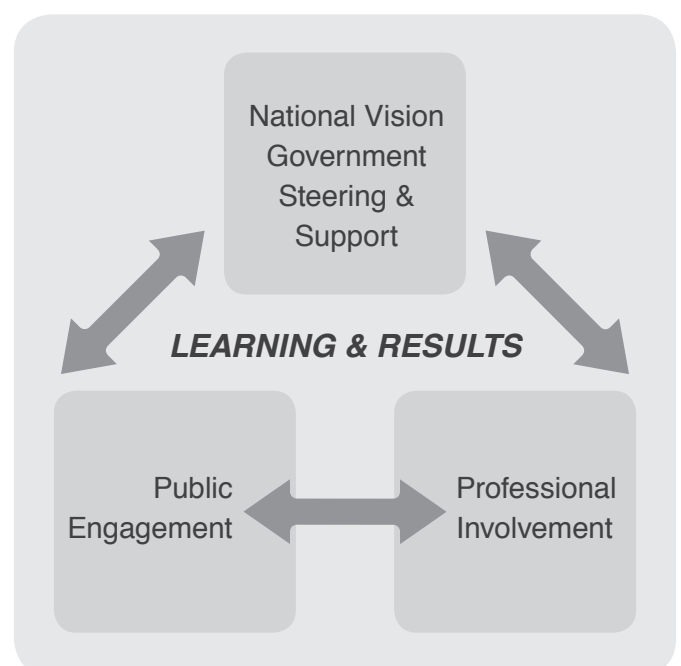
### 1.4 The Fourth Way

With the rut that the third way seemed to have been confronted with, it was time for the dawning of the Fourth Way. There was a need for inspiration and for the birth of something radically different from the first three ways. Co-authors Hargreaves' and Shirley's research on high performing education systems, school districts and networks covered the education system in Finland, a network of more than 300 secondary schools in England, the province of Alberta in Canada, and Tower Hamlets district in the UK. Powerful new principles of

education change and improvement emerged from all these extraordinarily successful cases.

In essence, the Fourth Way is about connecting three distinct elements (see Figure 1). First, there must be a national vision and a clear sense of where a country is going. The focus is not on the country's rankings. It is about "*who we are, what we are and why we are*". This is the first element that drives the performance that follows. The second is professional collaboration, which involves teachers working with teachers, schools working with schools, and more local discretion for decision making. The third is public engagement, which actually means that the government loses control because there is more democratic inclusion of the public deciding the way it is moving as a society. It also means the profession is redefining professionalism. In other words, the professionals gain more autonomy from the government, but also less autonomy from the public, parents and communities over time. Therefore, practice has to be open to public definitions and understandings of what school is like.

Figure 1: The Fourth Way



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The principles of the Fourth Way consists of *six pillars of purpose and partnership* that support change, *three principles of professionalism* that drive change, and *four catalysts of coherence* that sustain change and hold it together.

The six pillars of purpose and partnership include:

- An inspiring and inclusive vision
  - Public engagement
  - No achievement without investment
  - Corporate educational responsibility
  - Students as partners in change
  - Mindful learning and teaching
- a) *An inspiring and inclusive vision*  
What is important is your dream and your vision, not your position or your number of what you want to be.
- b) *Public engagement*  
It is about building trust between the schools and communities and engaging the public of what you are doing.
- c) *No achievement without investment*  
It is about investing in education rather than cutting back government expenditure and seeing it as a drain.
- d) *Corporate educational responsibility*  
It is about cooperate involvement, not with control for financial benefit but as a community responsibility. Furthermore, this is a moral community responsibility.
- e) *Students as partners in change*  
It is also about seeing students as partners in change and partners in leadership.
- f) *Mindful learning and teaching*  
It is about an approach to teaching, which is not just the implementation of a script, or a quick response to an external demand. But it is more about mindful, deeply engaged, critical, and challenging teaching and learning.

***If it is the pillars that support educational change, then it is teachers' sense of professionalism that drives the change.***

The following principles are at the heart of this argument:

- High quality teachers
- Positive and powerful professional associations
- Lively learning communities

First of all, a nation must be able to attract and keep high quality teachers in its education system. At the same time, teachers must be provided with good support and freedom over their work to connect with their students over time. Second, it is about the way that unions and professional bodies are involved in educational change. Instead of being seen as obstacles or impediments to change, the Fourth Way advocates that people in professional associations should be actively involved in improving teaching and learning even when it challenges their members. They ought to be powerful and closely connected to the teaching and learning in such a way that attracts more young teachers into active membership within the unions. The third is about the nature of professional learning communities (PLCs). Teachers in the best PLCs do not just look at goals, interpret spreadsheets, deliver quick interventions, or examine the data walls of how the kids are progressing and moving along. Instead, they are committed to thinking deeply about teaching and learning, connecting it to their practice, working out how their children can learn differently, and taking collective responsibility for not only the students in the grade they are teaching, but kids in other grades as well, because the school itself is a community, a family bound by the same goals and aspirations. If the six pillars support and the three principles drive the Fourth Way, there are four principles that create the coherence:

- Sustainable leadership
- Integrating networks
- Responsibility before accountability
- Differentiation and diversity

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The first, sustainable leadership is not just about developing leaders over the 'pipeline' – identifying people early, developing them and moving them through, which is what the Third Way was. It is rather about thinking about how leaders work with other leaders, and how schools help other schools. In the Fourth Way, if a leader has one very good school which is doing well, he/she might take on a second school and become a principal of two schools. This means that the school leader can grow and develop, yet not have to go into the bureaucracy and 'take flight' from the schools. It also means that the leader has to develop people behind him/her and distribute leadership so that the school can survive with his/her departure. While the Third Way sees leadership as a pipeline of individuals moving through the system, the Fourth Way regards leadership as a system, which is a community of people who work together to support each other across space and time.

The second principle advocates integrating networks. In the Third Way, there are networks of schools helping schools and even the strong helping the weak. But in the Fourth Way, networks are different because very often networks will consist of schools next door, the schools in the same community, and the schools that may even be competing with each other. This is because schools have a greater commitment to the community they have in common than to their individual school.

The third principle is about responsibility before accountability. Responsibility is what people jointly take for something they deem to be important. Accountability should be the little remainder that is left over once responsibility has failed. But in the Second Way and the Third Way, people drive the education system through accountability. The result is that often people give up responsibility because they feel other people are taking care of things. However, teachers can monitor themselves. So the Fourth Way is not about having no accountability, but about responsibility before accountability.

The last is about differentiation and diversity. Differentiation in diversity is important for our students. It involves understanding the different ways they learn and the different intelligences they have, which can help teachers teach differently. Teaching differently does not mean that teachers can or should teach in any way they like, but to get different people to stick together around a common goal, make different contributions to it, and learn from each other by sharing practices.

Singapore presents a unique case of the Fourth Way in action. The following presentations by the Roundtable panellists provide the opportunity for understanding how Singapore's journey finds both congruence and yet offers new insights that may challenge or re-interpret the key principles of the Fourth Way. What is also unique about this roundtable is that the panellists are drawn from key stakeholders in the Singapore education system and who can collectively provide a coherent picture of the historical development, current changes and future directions in the Singapore Education story.



# EDUCATION POLICIES AND PRACTICE IN SINGAPORE SCHOOLS

MR SIEW HOONG WONG

DIRECTOR OF SCHOOLS, MINISTRY OF EDUCATION



*What do we have today? All schools are striving for excellence and all trying to improve from within, striving for greater professionalism. The next phase of our work is really the continuation of the TSLN. We are trying to foster stronger values-driven professionalism in our teaching community, on the basis of teacher identity, stronger shared ethos, and learner-centeredness.*

The evolution of Singapore's education system, policies and practices in the last 50 years can be characterised into three distinct phases which run parallel to the rapid socio-economic changes taking place both in the local and global educational landscape.

## 2.1 'Survival-driven' Phase

The 'survival-driven' phase describes the initial years of independence between the 1960s and 1970s when Singapore had just become independent from Malaysia. In the early days of self-government, the new nation's future was not secure. Singapore had to quickly ensure its military security, grow a new economy and develop its own education system. To meet the new economic goals, an accelerated building programme saw many schools established in succession, numerous teachers were recruited and trained, and a large number of students were enrolled in the newly established schools.

## 2.2 'Efficiency-driven' phase

As Singapore became more established as an independent state by the late 1970s, the government began to realise that there was much wastage because

# EDUCATION POLICIES AND PRACTICE IN SINGAPORE SCHOOLS

MR SIEW HOONG WONG

DIRECTOR OF SCHOOLS, MINISTRY OF EDUCATION

students were leaving school without completing their formal education, as the skills required for the jobs from Singapore's growing economy could be easily acquired 'on-the-job'. This led to the next phase of 'efficiency-driven' reforms from the late 1970s to early 1990s, in order to try to reduce the high attrition rates. These reforms were aimed at ensuring that students received a 'real education' and that high educational standards were set. This was achieved by centralizing the curriculum, and standardizing textbooks and practices for schools. The institution of a school inspectorate and other measures were implemented to ensure that teachers followed centrally instructed curriculum and teaching practices.

The reforms worked, and by the end of the 1980s, graduation rates rose. However, while there was indeed widespread standardization, high conformity and uniformity in the school system, it was apparent that these reforms resulted in less ownership on the part of the schools, principals and teachers. Principals were merely managers based in schools who were there to receive instructions from the Ministry. Teachers taught according to prescribed curriculum, using textbooks that were centrally produced. There was no concept of innovation or curriculum development that was teacher- or school-initiated.

In the late 1980s, the Ministry began to examine how education could respond to the changing needs brought by a knowledge-based economy. One response was the establishment of a few independent and autonomous schools. By the mid-1990s, although the independent and autonomous schools were doing well, the government realised that having just a few 'front-runners' was not sufficient. There was a need to reorganise the entire system in order to stay responsive to the knowledge-based economy, and it had to be customised to meet the needs of schools. More fundamentally, the purpose of schools had to be to educate individuals to think, change and respond to the needs dictated by the knowledge-based economy.

## 2.3 The phase of 'ability-driven paradigm'

The third phase of Singapore's education reform is known as the 'ability-driven paradigm', and it was ushered in by the 'Thinking Schools, Learning Nation' (TSLN) initiative from 1997 onwards. It was a rallying call to change the education system to develop a culture of deep thinking and learning. TSLN is guided by three key principles:

First, TSLN must be undergirded by quality teachers. During this period, strong measures were taken for the purpose of raising teacher quality, primarily through the review of remuneration for teachers and also by stronger professional development initiatives through teachers' networks.

Second, TSLN gave school leaders more autonomy. The belief was that thinking schools must emerge through strong school leaders who were committed to building a community of learning within their schools. Autonomy enabled school leaders and teachers to innovate school practices that best fitted the context of their schools and that met the needs of their students. Singapore's education system was moving away slowly and steadily from the top-down approach, and turning its focus on developing a corps of school leaders who would be able to transform not just their own schools, but the school system as a whole.

Third, TSLN marked the removal of the school inspectorate system and in its place, was the introduction of the School Excellence Model (SEM). This was to allow thinking schools to flourish as the SEM was a model where responsibility and ownership for improvement rested with schools. MOE did not set targets for the schools. Instead these were developed based on the professional discussions among teachers in the schools, with consideration of the kinds of students they were serving. MOE representatives visited the schools not to inspect but to validate what the schools were doing, and to check on the progress they were making. The spirit of SEM was about self-improvement and ownership of the

# EDUCATION POLICIES AND PRACTICE IN SINGAPORE SCHOOLS

MR SIEW HOONG WONG

DIRECTOR OF SCHOOLS, MINISTRY OF EDUCATION

journey of excellence in each individual school.

Fourth, accompanying the autonomy movement and SEM was the cluster system. Schools were organised into communities and mentored by superintendents. Clustering enabled schools to reflect on their practices and created platforms for schools to learn professionally from each other. This led to the rapid professional growth of both schools and their teachers. The cluster instructional programmes in the system allowed teachers to come together to talk about their professional endeavours (e.g. teaching their subject, facilitating pastoral care, sharing key learning points from attending conferences and seminars etc.) In addition, centres of excellence and centres of learning became places where teachers shared their best practices with their peers. For example, the inter-cluster resources sharing system, iSHARE has been employed as an online platform where teachers deposit some of their best lessons to be shared with others. iSHARE has seen tremendous progress in its first 18 months – teachers have put up around 70,000 lessons on this platform. A sharing culture has become part and parcel of the character of schools.

In 2005, a new initiative was introduced – Teach Less, Learn More (TLLM). It was a continuation of TSLN, but more focused on classroom pedagogy, and getting teachers to reflect on how they are teaching, and what they are teaching to improve the learning of students within an open sharing culture, while at the same time emphasizing the need to consciously cut down on the amount of content coverage in the curriculum so as to free up space for reflection. Teachers began to look more deeply into their work to innovate teaching and learning. Ownership belonged to teachers and schools, with school leaders providing them the necessary support to improve their pedagogy and engage the students. At the systemic level, MOE had to be flexible enough to relinquish control and facilitate ownership by supporting schools in this journey. The fundamental purpose of these reforms was to strengthen the professional practices of the entire teaching profession,

by strengthening leadership, curriculum instruction and teachers' pedagogical practices.

## 2.4 The next phase

As a result of these initiatives, all Singapore schools are now striving for excellence and trying to improve from within. Teachers are also striving for greater professionalism. The next phase forward will see a continuation of both the TSLN and TLLM initiatives. The system will aim to foster stronger values-driven professionalism in the teaching community, which is based on strong teacher identity, shared professional ethos and learner-centredness. It is envisioned that there would be greater collaboration and shared responsibility among teachers, where they will organise and develop themselves into a community that will promote teacher-owned cultural professional excellence. Although this task will be spearheaded by the Academy of Singapore Teachers, it must be proliferated on the ground through professional learning communities, where teachers can reflect and learn about what they can do to improve their classroom practices.

The journey taken from the 1960's to the present day reflects the importance of education in the Singapore psyche and explains the strong investment the government has put into developing a world class education system that is admired by many. Singapore's education budget is second only to that spent on defence. At the latest announcement of the 2011 budget, \$10.9 billion has been earmarked for education.

The question of whether Singapore is leading or indeed practising within the Fourth Way is still a moot point. As a very small city-state without a hinterland of natural resources, Singapore has its own unique contextual features which have been adapted to meet its specific challenges. We have, to a large extent, always forged our own way of doing things rather than followed a prescribed formula for success. Education policy and practice has always been determined by the need to mould and secure a good future for the nation.

# TRANSLATION OF RESEARCH INTO POLICY AND PRACTICE

DR CHEW LENG POON

DEPUTY DIRECTOR, RESEARCH AND EVALUATION, PLANNING DIVISION, MINISTRY OF EDUCATION



*If you ask why the Singapore system work for ourselves, in our context, I would suggest that it is the unity of vision and mission among our teachers, school leaders, union leaders, NIE educators and researchers and policy makers at MOE... All of us, despite our different views and leanings work towards a shared vision of moulding the future of our nation.*

### 3.1 Policy Formulation in Singapore

In Singapore, the development of policy is based on a dynamic tripartite relationship between research, policy and practice as shown in Figure 2. Policy formulation is often triggered/influenced by several factors such as parents' views, government needs, industry needs, and

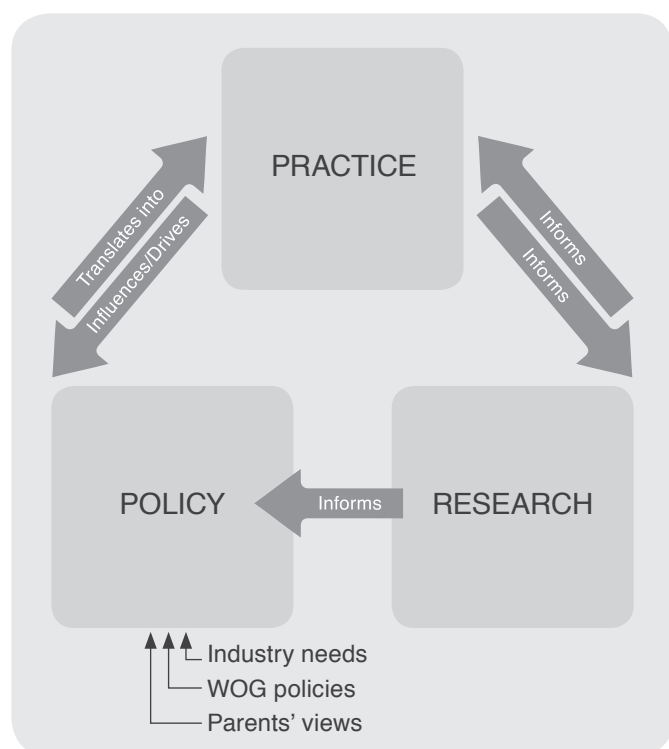
economic and social agendas. Once policy is formed, it is translated into practice but the relationship is by no means one-sided. This is because practice also drives and influences policy decisions. Policy formulation is informed by both formal collection of data as well as less formalised data collection, such as via good ground knowledge of practices and needs in schools through in-depth understanding of the landscape via visits and focus-group discussions with different stakeholders in education. The evidence-base provided by research, informs both policy and practice while practice in turn, also influences what research focuses on.

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Figure 2: Relationship between research, policy and practice in the Singapore Context



## 3.2 Case Study of the Mother Tongue Language Review

This inter-dependent relationship between policy formulation, research and practice illustrated in Figure 2 is exemplified through the recent Mother Tongue Language policy review. This review included how the mother tongue is taught, how students learn the mother tongue, and the way it is assessed in high stakes examination. The review was in part triggered by ground knowledge of the changing language environment of students at home, in schools and in the community. Political leaders and senior MOE officers spent time on the ground with various parties. They visited schools, dialogued with teachers as well as students. This ground knowledge was further strengthened by data collected from an extensive, systematic survey of the professionals, parents and students. In all, close to 10,000 primary, secondary, and junior college students were surveyed and close to 9,000 parents and 4,000 mother tongue language teachers in 242 schools responded to

this survey in 2010. The survey covered a wide range of topics including home language environment, the different ways mother tongue languages were used in students' social environment, the motivation of the students in learning the mother tongue, their reading habits, the difficulties they encountered in learning the mother tongue, and the expected proficiencies students should reach. The review was also informed by a collection of research evidence on how students acquire two languages, transfers that are likely to occur in the learning of two languages and the relative effectiveness of various pedagogies for learning specific mother tongue languages and alternative approaches to assessing language proficiency.

The above cited example suggests that the policies that teachers implement and which students experience in Singapore are often the result of deep knowledge and experience of the site where teaching and learning actually take place. Besides drawing on research-based evidence, it is often characterised by a pragmatism that is rooted from ground knowledge rather than pure political ideology and expedience. This pragmatic approach means that policy makers are more willing to listen to new ideas to solve local problems, meet real needs in the classrooms, and listen to the voices of teacher and parents in policy development. Research in this context is therefore focused on what the real situation is telling us and looking at real issues of implementation on the ground. In this way, the child and the nation's interest are kept in focus.

## 3.3 Singapore's Education Policies: Fourth Way Characteristics?

In the Fourth Way, Professors Hargreaves and Shirley wrote about how systems that started with little or no standardised testing have been moving towards greater standardization and use of high stakes assessments in recent years. In contrast, Singapore started at the other end of the continuum. Policymakers have been trying to fine-tune the system without removing the motivation of

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students and parents to work hard. There is no getting away from the strong testing culture in Singapore. In the pre-tertiary years, Singapore students sit for at least two national examinations, which largely determine the school they will attend. Teachers also work hard preparing students for these assessments. To mitigate the negative impact of this testing culture, a number of policies have been introduced in recent years. In 2004, the Ministry of Education (MOE) in Singapore introduced an integrated programme to allow selected students to skip a major examination – the ‘O’ levels. Subsequently, the direct school admission scheme also enables students to gain admission based on strengths apart from their academic achievement. Specialised schools for arts, sports, science and technology were also set up to offer different pathways for students with different aptitudes and strengths.

In 2009, Singapore participated in OECD’s (Organisation for Economic Cooperation and Development) Programme for International Student Assessment (PISA) and ranked 5th for reading literacy, 4th for science, and 2nd for mathematics. How does Singapore leverage on the findings of this international study? MOE sensibly focused on what we were doing right in our own local context, and on what needed to be improved based on the evidence provided by the PISA data triangulated with findings from other local and international studies, such as the McKinsey report on how good schools keep getting better, and the OECD report on strong performers and successful reformers in education.

The lessons that MOE drew from the PISA findings were not about which school did better but rather about what more could be added to the curriculum. The PISA findings also validated earlier evidence that teachers are the most important assets in delivering high quality education. MOE will therefore continue its commitment in putting effort and resources to support teachers’ professional aspirations to build their capacity in areas that are most helpful to enhancing their role as classroom teachers.

MOE will also be dedicating significant resources towards support in initiatives in schools such as action research and innovative initiatives.

One major take away from the PISA results is “...the need to relentlessly raise the quality of teachers, by fostering a stronger teacher-led culture professional collaboration, and excellence.” In this respect, MOE has already begun setting the momentum last year (2010) with the establishment of the Academy of Singapore Teachers, a professional body run by teachers, for teachers, to foster a teacher-led culture of reflection, inquiry and debate.

What makes the Singapore system work? The Fourth Way emphasises the importance of an inspiring and inclusive vision. There is no denying that in the Singapore context, one of the key success factors is indeed the unity of vision and mission among the people that make the system work – teachers, school leaders, policy makers, researchers, NIE educators, and union leaders. It is widely accepted that Singapore has no other assets more valuable than its people, particularly our children, who represent our future. If we do not do our utmost for them by finding ways to accommodate a diversity of views and embracing a shared vision of nationhood, then there is no future to speak about. We therefore urgently need to continue investing wholeheartedly in the education of our young, for the future of our nation lies in their hands.

# SINGAPORE'S EDUCATION SYSTEM (K-12)

PROFESSOR S GOPINATHAN

PROFESSORIAL FELLOW, POLICY AND LEADERSHIP STUDIES, NIE



*Young Singaporeans with global aspirations need not be seen as a loss to the nation. Rather they can form the nexus of an 'external wing' to the Singapore economy and ensure that we stay relevant in the global society that we live in today.*

While Singapore is often described as 'a nation of the present and the future', this belies the fact that we are a nation deeply rooted and shaped by our origins. The education system mirrors our unique historical evolution and journey through the times; from the pre-colonial, through the colonial to the post-colonial eras.

## 4.1 Singapore's Education System

Singapore's modern education system is primarily a post-colonial one, very much tuned to the needs of the

economy and society after independence in 1965. While it was modelled on the 6-4-2 metropolitan system, i.e. six years in primary school, four years in secondary and two years of post-secondary education and the 'O' level and 'A' level exams are still very important, our present day education system bears little resemblance to the British system of 30 or 40 years ago.

The evolution has been driven by Singapore's unique social context and milieu. What was essentially a segmented system – an English medium system and a Chinese medium system accommodated the needs of a very plural society brought about by migrants from China and to a lesser extent South Asia in the second half of the 19th century. Despite the racial and linguistic diversity, formal education under colonial rule was extremely limited. Religiously funded schools particularly by churches were the major providers of

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English medium education, as government schools were relatively small in number. By contrast, the Chinese due to their numerical majority, had by the 1950s, a well-developed Chinese medium school system, ranging from K-12, polytechnic, to even a university.

This segmented education system was to become a political tinderbox in the post-war decolonisation years leading up to independence in 1965. Education was seen as fundamental to nation-building and it sparked soul-searching questions about what sort of a nation Singapore would become.

## 4.2 Pre and Post War Traumas

The Singapore psyche and how it has shaped education and other national policies can be seen through the lens of three pre- and post-war traumas. The first was the Japanese invasion and occupation. The British surrendered without much of a fight. The brutality of the Japanese occupation was seared into the memory of those who survived the war. It brought home lessons about the need to maintain a secure Singapore. The second trauma was the Indonesian Confrontation, which again underlined the need for self-preservation in a volatile region. The third and most defining trauma was the failure of merger with Malaysia in 1965, after which Singapore found itself cast adrift and beset by its own vulnerabilities – too small to be viable on its own; a Chinese majority state that sat uncomfortably in the middle of the Malay archipelago; pursuing a creed based on meritocracy, which was at odds with the race-based politics of its neighbour.

## 4.3 Challenges

The succession of traumas built up to a period of great challenges for Singapore – having to first create a state, and then to build a nation. This involved establishing almost from scratch, social institutions and a viable economy. The traumas also created a 'survivalist' mentality that became the driving force for modern-day Singapore – the will to not just survive, but to succeed

and to surpass all expectations.

In the field of education, the goals were clear enough – to transform Singapore from a trading post of migrants into a nation, and to ensure that Singaporeans had the requisite skills and knowledge to compete successfully. Given the fragmented and divisive system which existed under British rule, the task ahead was extremely daunting. It has been a journey that has taken the last 30 years, and is still evolving.

## 4.4 Key Policies

There were several key educational policies that have shaped Singapore and contributed to its extraordinary success. Foremost of which was the retention of English and the adoption of bilingualism. The retention of English as the official language and medium of instruction in schools was an act of great political courage. In 1965, students who went to English-medium schools were still a relative minority, but Singapore's leaders saw English as the key to the rest of the world. With no natural resources, no capital base, low-level entrepreneurial skills, and almost non-existent technology, the outlook was indeed grim. Proficiency in English was seen as the way to communicate with and engage the Western economies into investing in Singapore. But the language issue was a minefield that required deft yet sensitive handling. The 1956 All-Party Report on Chinese Education recommended that the state adopt an equality of treatment principle, which meant that all languages would be treated equal. Singapore's formula for dealing with linguistic diversity was to establish one national language, which is Malay, and four co-official languages: English, Chinese, Malay and Tamil. The education system adopted a bilingual education policy, meaning that while English was the medium of instruction at the primary, secondary, and tertiary level, the learning of a second language as a subject would be made compulsory.

After language, the second major hurdle was how to



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transform a colonial legacy curriculum which was largely arts and humanities-oriented, into one that would be much more balanced to include science, mathematics, and technology. This reform was essential because it would produce a labour force competent in the industrial skills necessary for Singapore's economic development. Singapore weathered this transformation remarkably well. The result was a smooth and well-connected system of transition points from the schools to the polytechnics and on to the universities. Today, there is fluid system of bridges and ladders; one which values academic merit as much as it validates the importance of technical and vocational skills without making them seem as if they are lesser indicators of success. Today the system has evolved further, with the goal of equipping school-leavers with 21<sup>st</sup> century skills vital to succeeding in the knowledge-based global economy.

The third key policy focuses on social cohesion which is the necessary glue that binds a multi-cultural country like Singapore. The social turmoil and riots of the 1950s and 1960s are an indelible reminder of the need to build an inclusive society. While education may not offer the complete solution to social cohesion, it is most definitely one of the key components of the process of how Singapore unites its people.

The fourth node of Singapore's education policy is the emphasis on merit-based selection. While this has generated claims that Singapore is a very elitist society, there are historical and political roots as to why we have taken this stance. One of the reasons for Singapore's separation from Malaysia was because the meritocracy-based approach was at odds with the Malaysian ruling party's stance that special privileges for the Malays were warranted because this was the only way the bumiputeras or 'sons of the soil', could get ahead and not lag behind. For Singapore, having separated from Malaysia on that very principled argument, it was beyond practical politics in a majority Chinese population to favour the minorities who constituted about 25% of the population. This

policy served Singapore society well because it was the only way to mobilise the talent that was available, and to ensure that education would be the means to social mobility rather than inherited wealth or other factors. To some extent it explains the continual dominance of high stakes exams, due to the perception that exams are objective, and anyone can proceed through the system through merit.

Finally, there is close ministry-level coordination to ensure continued relevance of acquired knowledge and skills. The collaboration and the alignment between investment, education and labour policies are probably closer in Singapore than in most other countries. In managing these fundamentals in a timely and orderly manner, the government has ensured that the education system does not produce graduates who cannot find jobs, or who are without skills or with irrelevant skills.

## 4.5 Future

Moving forward, any educational reform in Singapore must be mindful of the following trends:

- **Maintaining high averages in literacy, numeracy and other areas.** The current high averages based on PISA results should not be taken at face value but be further analysed to identify underlying gaps.
- **Creating multiple peaks of excellence.** This comes from the idea in the Thinking Schools, Learning Nation (TSLN) initiative that while we have these high averages, we ought to be able to identify and work with a broader definition of talent. Having multiple peaks of excellence means implementing policies that move away from standardisation.
- **Reducing dispersion.** This is an emerging concern which will merit very serious policy attention over the next decade or so as senior leaders have warned that Singapore cannot afford to have a large low skilled labour force.

## 4.6 New Challenges Ahead

No doubt, Singapore is being considered as a case study

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of a nation who is very much leading the forefront in the Fourth Way. Yet, we are, undeniably at the threshold of major and fundamental challenges.

First, rising income inequalities will direct much more attention on the nature of skills, the nature of opportunities, and the nature of merit-based selection. While Singapore appears to be a fairly equitable society, there are some worrying signs that the gap is actually widening, leaving more people who lag behind. How the government and society addresses this will be a measure of what kind of society Singapore will be in the future.

Second, Singapore is now reinventing itself again as a nation of migrants (foreign talent). With no sign that the falling birth rate will be reversed any time soon, migration is seen as the only option to maintaining a strong labour force for continued economic development. However, there are inevitably huge social consequences. The local-born citizens are beginning to feel a little uncomfortable with the new migrants who might be ethnically the same, but very different in terms of habits and behaviours, attitudes and aspirations. In addition, there is growing resentment that the growing migrant population is putting a strain on the limited living space. These issues pose new challenges for policies on social cohesion, bilingualism, and national education. How the government and society deals with this will be critical.

Finally, there is the challenge of balancing our youth's ties to community and country with their global outlook and aspirations. Gen-Y looks at the world outside in ways that are fundamentally different from those of their parents and it is necessary to adapt to a new paradigm. Young Singaporeans with global aspirations need not be seen as a loss to the nation. Rather they can form the nexus of an 'external wing' to the Singapore economy and ensure that we stay relevant in the global society that we live in today.

# TEACHER EDUCATION IN SINGAPORE

PROFESSOR OON SENG TAN

DEAN, TEACHER EDUCATION, NIE



*Pre-service teacher education in NIE is highly interwoven with what is happening in the real world. This was the impetus for updating our teacher education model, in the light of the 21<sup>st</sup> century challenges. NIE's TE21 Model (Teacher Education for 21<sup>st</sup> Century Model) puts major emphasis on teachers' values, because if there is a new 'Fifth Way', then it has to be the way of values.*

In examining how the key features of teacher education in Singapore align with the Fourth Way principles, it is worth considering at least two perspectives of teacher education in Singapore. Firstly, teacher education in Singapore reflects a uniquely Singaporean approach to education that is highly contextualised and grounded in the pragmatics of the school system. Secondly, teacher

education in Singapore also asserts the university's role in the advocacy of good educational practices and advancing the frontiers of knowledge and practice that is based on research and evidence.

## 5.1 Impact Perspective of Education

Singapore's education system is premised on an 'impact perspective', which is reflected in the following four aspects:

First, there is high cognizance not just of reform and innovation but also of the outcomes strategic to change, at the macro and micro levels and involving key stakeholders and partners, including the National Institute of Education (NIE), Singapore.

The second is the big picture factor, where Singapore's approach is more holistic, looking at things from a bigger perspective, and understanding the principle of multi-factor impact.

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The third is a strong recognition of international research and evidence. As early as 2004, when Professor Marilyn Cochran-Smith published her research on teacher education and teacher quality, people began to pay attention to the notion of how teacher quality impacts the quality of teaching and learning. Further research and data showing the link between teacher quality and outcomes of education followed, including the McKinsey report on what drives the world's best education systems (Singapore included), as well as recent international studies on standards and expectations. These days, our attention is focused on teacher development in the 21<sup>st</sup> century.

Fourth, in terms of policy inception, design and implementation, the strength in the Singapore education system lies in clarity of communication, and the consciousness for continuously developing capacity. Using the analogy of the old man, the child and the mountain, the old man represents past wisdom, which is always in the foreground giving the much needed comparative perspective, allowing us to understand where we come from and where we have been. The child represents the obsession with the new, the future and the next generation. The concept of the child as a learner underlies the concern with nurturing the future of the nation. Finally, the mountain represents the clarity of vision which comes from being able to see the big picture.

There has been much articulation about the notion of 21<sup>st</sup> century thinking, and the need for 21<sup>st</sup> century teacher education to foster that thinking. Much emphasis has been directed towards providing a holistic, diversified and dynamic education landscape for the 21<sup>st</sup> century learner in terms of social, national and universal dimensions. This is because the 21<sup>st</sup> century learner ought to have a 21<sup>st</sup> century mindset and be able to work in new environments and be adept with the new tools surrounding him/her.

In Singapore, there is a strong understanding of the importance of the value-addedness of education. It is therefore essential for teacher education institutions to create value and avoid problems of obsolete content, superficiality of knowledge, dispositions that create unwanted constraints, instant and externalised learning,

lack of tolerance, 'muchness' of nothing, and learning environments that do not encourage motivation and independence. To avoid these follies, what is most important is to have an integrated, big picture perspective of the education system. This brings us to the next point about the importance of goal congruence.

### 5.2 Goal Congruence

Goal congruence refers to clarity of purpose and common understanding among the stakeholders – NIE, MOE, and schools. It means there is alignment of purposes across stakeholders and the champions of education. Debate plays a role in the thinking and sharpening of ideas. One of the key principles in the Fourth Way that is practiced in the Singapore system is the existence of a tripartite relationship between NIE, MOE and Schools. It is a key success factor that will determine the success of the implementation of NIE's TE21 (Teacher Education for the 21<sup>st</sup> Century) programme. Transforming teacher education is a task NIE cannot achieve in isolation. There is a need for unified commitment and alignment of efforts from all key stakeholders, and in particular, the schools will be an important partner in strengthening the theory-practice linkage for student teachers as they develop from beginning teachers to experienced professional teachers.

### 5.3 Openness to Innovation

Singapore is probably more open than most teacher education systems to research and evidence-informed innovation, such is the desire to stay responsive and relevant. Adaptation is happening very aggressively, driven by the great hunger not just for learning, but also occasionally, for novelty. Because of Singapore's positioning as a confluence between east and west, adaptation has penetrated the system very quickly. For example, there is strong recognition that both the nature of knowledge in the real world and the nature of participation in learning are in rapid change, with new rules of engagement with students becoming essential. Students today can be characterised as an 'EPIC' generation – a generation that treasures *experiential* and exploratory learning, embraces *participation*, a generation that indulges in rich *imagery*, and a generation

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of *connectedness* with the global society. With this new profile, it is inevitable that the nature of participation within classrooms has changed.

Another feature of openness in NIE can be found in the nature of staff involvement in national reforms on national education, ICT in schools, and holistic education. There is a constant dynamics of input into curriculum reform, and NIE staff with expertise have been collaborating closely with MOE, directly involved not only in the policy development, but also in the actual implementation of policies to see educational reforms move successfully into implementation.

#### 5.4 Development of Quality Teachers

There is no doubt that quality teachers are key to a good education system. A myriad of international literature is available covering a wide range of teacher quality issues including recruitment policy, teacher preparation, school leadership, professional development, and the importance of supporting teacher development. To Singapore's credit, many of these evidence-based recommendations are already in practice. One of the more recent initiatives that support teacher development is the creation of the teaching track. Classroom teachers can now be recognised as lead teachers, senior teachers and master teachers and enjoy the same remuneration benefits as their colleagues on the specialist or leadership tracks.

Pre-service teacher education in NIE is highly interwoven with what is happening in the real world. This was the impetus for updating our teacher education model, in the light of the 21<sup>st</sup> century challenges. NIE's TE21 Model (Teacher Education for 21<sup>st</sup> Century Model) puts major emphasis on teachers' values, because if there is a new 'Fifth Way', then it has to be the way of values. When there is rapid pace of technological development combined with the constant upheavals on the socio-politico-economic fronts, it is values that provide the anchor of stability, consistency and centredness in a changing vortex. A values-driven teacher education programme reflected in the V<sup>3</sup>SK (Values, Skills, Knowledge) model provides the underlying context for

teachers to be effective in their role of developing the individual to maximise his/her potential, and to have a strong sense of rootedness to the community and nation.

A three-dimensional Values paradigm comprising: Learner-centredness, Teacher Identity and Service to the Profession and Community forms the centre of our teacher education goals. Learner-centred values refer to teachers' belief in the learner. Teachers should know about their learners better than anybody else because they are not only equipped to understand the learner but because they place the learner at the heart of their teaching goals. Teacher identity focuses on the sense of pride in the profession in terms of their role and the quest for excellence, beyond academic results. There is a moral component of doing a job well so that it inspires others. Service to the profession and community refers to growth, development and advancement through continuous learning and sharing of knowledge and best practices.

The other two elements in the V<sup>3</sup>SK model focus on equipping teachers with up-to-date knowledge and skills to enable them to be 21<sup>st</sup> Century classroom-ready. NIE ensures that the curriculum enables pedagogy to be enhanced and diversified, while assessment for learning and of learning is improved. When student teachers graduate to become beginning teachers, they are also expected to be lifelong learners. Teachers are provided with ample opportunities for professional development and strengthening their links within the teacher education fraternity.

In conclusion, Singapore is well tuned-in to the changes, developments, innovations and best practices that are taking place in teacher education all over the world, and has selected, adapted and pioneered its own course to suit its own context. If a good education system is defined as one that builds trust and connectivity, stays responsive to cultural and contextual diversity, creates teacher empowerment, and builds bridges for all partners to contribute, then Singapore is certainly headed the right way!

# EDUCATIONAL LEADERSHIP THROUGH THE LENS OF THE FOURTH WAY

ASSOCIATE PROFESSOR PAK TEE NG

ASSOCIATE DEAN, LEADERSHIP LEARNING, GRADUATE STUDIES & PROFESSIONAL LEARNING, NIE



*“Is there room within the government control, The Fourth Way asked? The elephant in the room of The Third Way has been an excess of government control. So it’s time to forge a Fourth Way that creates room inside the government elephant. What is the Singapore situation? I think Singapore’s situation, if you ask, I am not sure if it’s The Fourth Way but I think it’s call the The Fourth Way Plus. Our school leaders’ mission is this, they have to think out of the box. They have to think out of the box and yet all the time to do well within the box.”*

While educational leadership in Singapore bears many of the hallmarks of the Fourth Way, there are also points of divergence, even contradictions. The uniqueness of Singapore’s education system stems from its historical background and the paradoxes it was built on, and is explored in two research publications entitled “Educational Reform in Singapore: From Quantity to Quality” (Ng, 2008) and “The Evolution and Nature of School Accountability in the Singapore Education System” (Ng, 2010). The fundamental premise is that Singapore has achieved because of these paradoxes.

## **6.1 Singapore’s situation**

Building on the national vision of ‘Thinking Schools, Learning Nation’ (TSLN), the initiative ‘Teach Less, Learn More’ (TLLM), together with the Primary and Secondary education reviews aimed at moving the education system from ‘quantity to quality’, Singapore has

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achieved quantitative measures of academic success as seen in the Programme for International Student Assessment (PISA). However, there has always been a strong realisation about the need to keep focusing on the quality of teaching, the quality of interaction in the classroom, and the quality of thinking amongst students.

The dilemma in moving the education system from ‘quantity to quality’ can be summarised as follows:

- Are ‘quality’ and ‘quantity’ two sides of a dichotomy and that we can only achieve one but not both?
- Can ‘quantity’ be alleviated if the focus was shifted to ‘quality’?

Singapore has always operated on a central system, though in recent years, there has been a shift towards a more middle ground, with aspects of both centralisation and decentralisation. The Education Ministry (MOE) sets the strategic directions and empowers school leaders to implement strategies that will achieve the desired objectives. Paradoxically, even with the decentralisation and empowerment given to the schools, the need to be ‘strategically aligned’ with the centre (MOE) still prevails.

## 6.2 Drive or Steer?

The Fourth Way advocates ‘less government, more democracy’, where governments should not ‘drive and deliver’, but instead should ‘steer and support’. In the Singapore context, while MOE has become more ‘democratic’, the system still struggles with the paradox of both ‘driving and steering’. For initiatives driven by the Ministry, for example TLLM, while proficient schools would be given the autonomy to run independently, MOE will step in to ‘level up’ the schools that lag behind, in order to ensure that there is meaningful and sustainable educational transformation across the system. Therefore one can surmise that the government steers when it has the confidence that schools can succeed, and drives when it sees the need to lend a hand to schools.

## 6.3 Democracy and Professionalism or Bureaucracy and the Market?

The Fourth Way endorses the importance of democracy and professionalism, and discourages the dependence on “the unfettered freedoms of market fundamentalism or on the arrogance of autocratic government control” (Hargreaves & Shirley 2009, p.69). There is ample evidence that Singapore has been practicing democracy and professionalism. At the school level, teachers have been given the opportunity to develop curricula within the stated guidelines, but they can also set shared targets. However, this autonomy in target setting was always contingent on the targets being ‘acceptable’ to MOE. Driven by the assumption that targets must be pitched at a higher rather than lower level, this set off an unhealthy trend of unrealistic targets. So while teachers were empowered to set their own targets, they set unrealistic ones, reflecting the tussle between responsibility and accountability.

## 6.4 Responsibility or Accountability?

The Fourth Way suggests that responsibility should come before accountability. If responsibility is defined as coming from within and accountability as external, then in the Singapore schools’ context, another paradox confronting teachers and principals is that they feel a sense of responsibility AND accountability. In a focused-group study conducted with principals and vice-principals, the school leaders felt responsible not only to their students but also to the nation and the future of mankind. Yet at the same time, they were accountable to key stakeholders to deliver the results that were expected of them.

## 6.5 Room within Government Control?

Because there was too much governmental control in the Third Way, it was time to forge a Fourth Way that would create room within the bureaucracy. School leaders in Singapore are tasked to ‘think out of the box while doing well within the box’. While minor failures are acceptable, school leaders are expected to take calculated and calibrated risks in implementing new initiatives to ensure

# EDUCATIONAL LEADERSHIP THROUGH THE LENS OF THE FOURTH WAY

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successful outcomes. The notion of 'learning through mistakes' has not gained much traction in Singapore's education fraternity as every new initiative is considered to be of high stakes, and every effort is made to ensure that the initiatives see the light of day in terms of fidelity in implementing them.

## **6.6 Mastering the balancing act**

However, this is not to say that school leaders are an overly cautious or confused lot. One of the key competencies that come out strongly in Singapore school leaders is their very ability to embrace complexities and paradoxes, and to master the balancing act. In this aspect, the Singapore school leaders are able to adapt, improvise as well as balance in the face of existing constraints and contradictions within the system that they operate. Perhaps therein lies the essence of Singapore's forging ahead in the fourth way as far as educational leadership is concerned.



# THE FOURTH WAY IN INTERNATIONAL PERSPECTIVES

PROFESSOR WING ON LEE

DEAN, EDUCATION RESEARCH, NIE



*No one has the monopoly of knowledge that others have to learn from. Even the learner coming from different cultures can play a part in defining knowledge, contributing to the establishment of knowledge.... And lifelong learning becomes so important that I am wondering whether this can become the 4th education sector of education on top of Primary, Secondary and Tertiary.*

## 7.1 Emerging Models of Learning and Innovation

'Schooling for Tomorrow' was an education policy analysis conducted by the Organisation for Economic Co-operation and Development (OECD) from 1999 to 2006, where member countries were tasked to project the development of schooling over the next 15 years.

The results of the study put forward six scenarios which could be grouped into three main states as shown in the table below:

The 'status quo extrapolated'	The 're-schooling'	The 'de-schooling'
Scenario 1: <i>Robust Bureaucratic School Systems</i>	Scenario 3: <i>Schools as Core Social Centres</i>	Scenario 5: <i>Learner Networks and the Network Society</i>
Scenario 2: <i>Extending the Market Model</i>	Scenario 4: <i>Schools as Focused Learning Organisations</i>	Scenario 6: <i>Teacher Exodus - the "Meltdown" Scenario</i>

# THE FOURTH WAY IN INTERNATIONAL PERSPECTIVES

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In the '*status quo extrapolated*' state, the school system was a huge bureaucracy. With teachers being a major organised group, it was impossible to implement changes in the education system without considerable social consequences. The schools were therefore, hesitant and slow to make changes. As the external environment evolved, school systems remained status quo, leading to diminished trust by the public and growing calls for accountability, measurement, and professional development on the part of the teachers.

The next state was '*re-schooling*', where schools were envisaged to function beyond academia and examinations, becoming as it were 'social centres' that took care of students' social and professional needs. It was also fuelled by the belief that frontline professionals would make better teachers than those who were conventionally trained because they had the relevant experiences and were technology savvy. Facing fast changes in economic restructuring in a globalised world, the experiences of the frontline professions are becoming more relevant and significant to the students.

After the '*re-schooling*' phenomenon, it was the turn of the '*de-schooling*' scenarios to emerge. The ubiquity of computers and the internet allowed students to access and share information freely. This created a paradigm shift in the teacher-student relationship, threatening to push teachers into obsolescence unless they made an effort to stay relevant. Coupled with the schools' expectations, difficult students and demanding parents, teachers lost the joy of teaching and many left the profession prematurely.

From the proceedings of two United Nations Educational, Scientific and Cultural Organisation (UNESCO) conferences, namely the (i) International Bureau of Education (IBE) Conference on curriculum adaptation for the 21<sup>st</sup> Century (1998), and (ii) IBE Conference on capacity building of curriculum specialists for educational reform in Asia (2000), it

became clear that there was a global convergence of educational ideas. This could be seen in the shared themes on curriculum adaptation around the world, in areas like *an all-rounded personal development, values and attitude, learning a second language and environmental education*, as well as in the use of common terminologies such as *generic skills, ICT and education and School-based curriculum development*.

With rapid economic restructuring came fewer jobs, intense global competition and increasing uncertainty. The approach towards education now went beyond subject disciplines and gravitated towards schooling for tomorrow, learning for tomorrow and sustaining competitiveness. OECD also reported that attitudes towards knowledge had changed from 'know-what' to 'know-why', 'know-how' and 'know-who'. Instead of knowledge acquisition or knowledge transmission, knowledge management has become increasingly important in the process of learning.

The OECD's Education Ministerial Meeting in 2010 concluded with two paradoxical goals of education: (i) an education system that produces not only human capital but also contributes to wider social benefits such as health, civic participation, political engagement, trust and tolerance; and (ii) a need for education and training systems to develop competent, connected and active lifelong learners who can respond effectively to unpredicted needs. Although there is much difficulty in measuring social capital, it is a concept that is gaining importance as the world begins to realise that everyone needs social skills in order to make good use of the knowledge gained.

## 7.2 From Lifelong Education to Lifelong Learning

The fundamental difference between lifelong education and lifelong learning has been subtle but clear. '*Lifelong Learning*' focuses on the person and implies that self-motivating individuals learn what would suit them for their own adaptation to the changing world. In contrast,

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'*Lifelong Education*' is associated with systems and programmes that are based on central strategies and state-led provision for extending the knowledge of the individuals. Since the 1990s, the terminology '*Lifelong Education*' has been gradually replaced by '*Lifelong Learning*'. As responsibility is progressively passed on to learners to personalise their learning, the role of the educational institution has to change to one that facilitates the provision of learning opportunities to suit the learners' needs.

### 7.3 Internationalisation of Education

Singapore has placed a great deal of emphasis on *internationalisation of education* and has often been cited as the most successful country in Asia in this aspect. The curriculum emphasis conforms to six characteristics of internationalisation of education suggested by Stier (2006):

- intercultural (themes and perspectives)
- interdisciplinary
- investigative (curiosity and passion for new cultural experiences and knowledge)
- integrated (national and international students)
- interactive (teacher-student; student-student)
- integrative (theory-practice)

Internationalisation is a process of developing new understanding of knowledge, and an innovative way to develop an epistemology in creating intercultural knowledge, culturally constituted knowledge, and a holistic approach to learning. Some attributes of internationalisation suggested by various scholars in the field include *adaptability, tolerance, empathy, flexibility, cultural awareness, respect (for rights), understanding (of cultural role), valuing (others' opinions), recognition of diversity, awareness (of local-global interactions), critical enquiry, reflections (on one's own cultural limitations), intercultural effectiveness: emotional intelligence, knowledge, motivation, openness, resilience, reflectiveness, sensitivity, and skills.*

In Australia, there have been difficulties in engaging international students due to cultural differences and the authorities have worked vigorously towards building cultural contexts into the western-based knowledge. The intention is to enable students to understand and contribute to creating knowledge. With the re-bordering of formal, non-formal and informal education, the signs point towards the emergence of lifelong learning as the fourth sector of education, after primary, secondary and tertiary education.

### 7.4 The way ahead

In a comparative study on lifelong learning in three countries by Lee and Fleming (in press) – Australia, Hong Kong and the United States, all had 'lifelong learning' inculcated into their universities' mission statements. This implies connectedness within the wider community, emergence of more open systems of knowledge production, and increasing emphasis on entrepreneurialism in terms of being responsive to the community. Quoting Robertson (2010, p. xvii) which offers a succinct concluding summary, "Over the past three decades, education systems around the world have been faced with a series of major structural transformations, with the borders and boundaries around the '*state*', the '*nation*', the '*sector*', the '*citizen-subject*', and '*knowledge*' being substantially reworked." The study of three lifelong learning institutions shows how this rework can take place when examining their unique contribution to knowledge in higher education.

# TEACHER EDUCATION IN SINGAPORE, EXPERIENCES BEYOND OUR SHORES

PROFESSOR SING KONG LEE

DIRECTOR, NIE



*What makes Singapore successful? Why is it that you are so able to implement things so successfully and so cohesively? I think our political leadership's answer is very straight forward. We learn from others. We are humble enough to learn from what others have done and what mistakes they have made and we will avoid. And then from there we see how we can contextualize the lessons learnt and we move forward.*

## **8.1 Underpinning Philosophy of Internationalisation**

The essence of the Fourth Way which may be applied to the context of internationalisation is the assertion about learning from top performing nations through research and evidence-informed studies and drawing upon first-hand and rigorous research evidence of outstandingly

successful practice from across the world to offer a plan for a more successful, challenging and sustainable educational future. Such learning from other systems around the world is increasingly relevant today as many education systems are driven by the need to excel in student performances measured by internationally benchmarked tests such as the PISA and Trends in Mathematics and Science Study (TIMSS).

One of the keys to Singapore's success in education can be attributed to the belief in learning that we can always learn from the lessons other systems have to offer. Indeed, while the education system is anchored on local thinking, it bears many elements of lessons learned from other successful systems which have been contextualised to suit our own unique situation. For example, in an initiative to strengthen Physical Education, Art and Music, senior educators including the Education Minister visited New Zealand (for PE), Australia (for art

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education), Japan (music education) and China (cultural settings) to understand and learn how the curriculum was implemented in their school systems.

Even as Singapore continues to learn from others, it is also timely and important to share our expertise and experience to benefit countries around us. There is no contradiction in the co-existence of competition and collaboration. While the sharing process at the governmental level could face some difficulties, autonomous institutions like NIE are well-placed to be ambassadors of the Singapore education success story. NIE has 60 years of experience in being the national institute preparing all pre-service teachers for Singapore's schools. Its success in turning out a quality teaching workforce is borne out in various studies that have credited the high achievements of the Singapore students to the quality of our teachers. This has made NIE a magnet for educators, administrators, policy makers, and school leaders since 2000. There have also been numerous requests for consultancy work from institutions and educational agencies within and beyond Singapore.

NIE's underpinning philosophy for internationalisation is to share our experiences so that others do not have to reinvent the wheel, and to share knowledge and insight that enables, empowers and reforms in order to achieve better student learning outcomes. But there is also a mindfulness in not merely replicating or teleporting the 'Singapore model' elsewhere, but rather finding ways to contextualise our experiences so that the changes that are eventually adopted do not destabilise the societal and cultural modes or derail the pace of progress in the respective countries in which they are applied.

Finally, the fundamental modus operandi is internationalisation through collaborating with our partners. There are three different models which NIE has applied successfully in its internationalisation efforts which will be elaborated upon in turn.

## **8.2 Model 1: Establishment of Teacher Education Institutes – Building Capacity**

The first model emphasises capacity building through

local empowerment. It calls for working with partners to understand their needs, current situation and the desired deliverables. The key modus operandi here is to consider the institute approaching us for educational consultancy as equal partners. After conducting a thorough needs analysis, often via site visits followed by a meta-analysis of the situational context, recommendations are offered on how to bridge gaps and enhance key areas of education development.

Using this approach, NIE helped Abu Dhabi and Bahrain to design a new academic curriculum, including providing content specialists to write the full curriculum (complete with powerpoint slides, explanatory notes, tutorial worksheets, keys to the worksheets and module assessment details), providing expertise to train and build up local capacity to manage the administration and operations of the teacher training colleges. In the process, our partners were empowered to take ownership of their own development.

## **8.3 Model 2: Training the Trainers**

The second model focuses on building local capacity through the 'train-the-trainers' approach. When Vietnam's Education Minister visited NIE to find out how Singapore prepared its school leaders, he was impressed with the leadership programme as it focused not only on management skills but also on transforming the mindset of the candidates and the understanding of leadership through a transformational leadership philosophy in the design and delivery of our educational leadership programmes. The Vietnamese request to NIE was to train 30,000 school leaders within 1 to 2 years! The magnitude of such an endeavour could only be accomplished using a 'train-the-trainers' approach. The aim was to have a 'multiplier' effect so that all the school leaders could be trained in the shortest possible time.

Based on the needs analysis conducted with senior policy makers in Vietnam, a customised Educational Leadership Programme for Vietnam (ELPV) was developed. The first task we did was to appoint a reliable and trusted national partner within Vietnam that could work in tandem in this ambitious undertaking. Upon consulting Vietnam's

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Education Minister, it was decided that the National Institute of Education and Management (NIEM) in Vietnam, which was the Vietnamese equivalent of a national institute of education for preparing teachers like the NIE, Singapore was appointed as our main working partner. The first step was to conduct a needs analysis where top management from NIE & NIEM met up both in Hanoi and in Singapore to come up with the proposal and the presentation on framework of operations was made to both countries' Education Ministers. It was established that there was a need for educational reform in Vietnam which could only be established through building the capacity of the educational leadership in Vietnam. Funding was a real issue. NIE, Singapore wrote a detailed 30-page funding proposal to Temasek Foundation, with full projected costing, impact & deliverables, implementation timelines. Careful follow-up procedures were also detailed in order to ensure not just numbers are trained but deliverables of the Educational Leadership programme are met. Six-monthly progress reports are also prepared and submitted to the funding body. In order to assure quality in the programme being developed, there are provisions for curriculum team to meet three times a year and for management review meetings to be held three times a year.

The programme's mission was to equip and prepare educational leadership for the 21<sup>st</sup> century for Vietnam. There were two major objectives:

- i. Build up educational leadership in Vietnam that will embrace the philosophy of educational leadership
- ii. Equip a core group of trainers that will conduct educational leadership programmes to prepare trainers and educational leaders at the provincial and district levels

In 2008, the target was to train a total of 2,400 educational leaders. This comprised 150 trainers at the national level, 330 trainers at the district level and 1,920 trainers from the provincial level. By 2009, this core group of trainers were able to train 14,000 principals from 64 provinces and by 2010, another 14,000 principals were trained. Thus, the target of training 30,000 principals was reached in December 2010 by leveraging on the national, district and provincial trainers trained in the first year of the programme.

This model is indeed effective when there is a need to cascade a programme for delivery to huge numbers.

## **8.4 Model 3: Executive Programmes – Leaders in Education Programme (International)**

The third model involves sharing of NIE's experiences in a wider international arena. Through the Leaders in Education Programme International (LEPI), NIE has within five years graduated more than 450 alumni from over 30 countries. The executive programme's success is in the clear articulation of the philosophy of the programme which is to inspire educational leaders to embrace a transformational leadership mindset. This philosophy is realised through activities participants undergo which help them to internalise the essence of such a philosophy. The ultimate aim of the programme is to empower participants to put what they have learnt into practice in their respective home situations. Singapore's Ministry of Education has also used this as a platform to reach out to developing countries like Myanmar, Laos and Cambodia, by sponsoring training places for school leaders to attend the programme. The aim is to build capacity and to empower participants to lead in educational change and development in their respective home countries.

## **8.5 Singapore: A Fourth Way in Action?**

As an exemplar of the Fourth Way in action, the Singapore education success story is finding resonance through NIE's internationalisation efforts which span the Middle East and Asia, including China, and more recently venturing into Russia, Europe, South America and Australasia. More than just offering Singapore's brand of teacher education to these countries, the underpinning philosophy of collaboration, equal partnership and contextualising all recommendations to the needs of the local partners while upholding our institute's articulated strategic success factors of always being relevant, responsive and ensuring quality and excellence is the true flagship of Singapore's internationalisation efforts in teacher education beyond our shores.

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