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EDUCATING THE NEXT GENERATION

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OPENING

1. Thank you for inviting me to speak this morning at the 4th Anniversary Lecture of the Lee Kuan Yew School of Public Policy.

SOUND EDUCATION FOR ALL – STRONG COMMITMENT, MIXED OUTCOMES

2. To entitle a lecture – “Educating the Next Generation”, is to invite a deluge of passionate responses and suggestions; all of which would have some kernel of truth and merit. Universally, there is strong interest and commitment to ensure that the young receive a sound education. But in practice, this yearning has not always resulted in approval when new educational initiatives are introduced. In fact, surveys across countries show the norm to more often reveal dissatisfaction with education systems. For instance, in a 2007 survey by the Fraser Institute, an independent Canadian research organization, 94% of respondents in Ontario, Canada cited disappointment with their public schools as a factor in choosing to

send their children to a private school.¹ Despite South Korea's strong educational achievements in recent years, the International Herald Tribune reported in June that a rapidly expanding number of Korean parents have been "driven by a shared dissatisfaction with South Korea's rigid educational system" to school their children in English-speaking countries such as New Zealand and the US. We also have some students here in Singapore. Korean parents believe their children have an edge if they become fluent in English, but also want to escape the "stress of South Korea's notorious educational pressure cooker."

3. Stakeholders – parents and children themselves included - obviously have high ideals and reasonably expect good public education as a universal right, as enshrined in many constitutions worldwide.

4. But delivery of this "right" has been patchy. Spending more does not always guarantee better outcomes. As a percentage of GDP, countries like Chile and Mexico spend more on education compared to the OECD average but are not known for high performing education systems. On the other hand, the cumulative expenditure per student of New Zealand and the Netherlands is below the OECD average². Yet both are among the best-performing countries in OECD's Programme for International Student Assessment (PISA) survey.

5. Wealthy countries don't necessarily have high quality public education. The US is the largest economy in the World. They have the best schools in some areas, but even by their own admission, many lament the state of their general education system. Last year, Bill Gates joined forces with fellow philanthropist Eli Broad to launch a US\$60 million campaign called "Strong American Schools" to push for education reforms in public schools. One quip is that the standard of schools in the San Francisco Bay area rises with the altitude, where the more wealthy can afford homes and send schools in that area. For

¹ <http://www.fraserinstitute.org/commerce.web/newsrelease.aspx?nid=4184>

² "Education at a Glance 2007" OECD

sure, successive US Governments have put in resources to try to improve outcomes. Take for instance the “No Child Left Behind” Act of 2001 in the US to reduce the achievement gap for disadvantaged students. However, seven years later and after more than US\$160 billion spent on the initiative, the results are still inconclusive, and the merits are still being hotly debated in the education community up till today.

6. In the UK, independent schools such as Eton, Winchester, Wycombe Abbey and Wellington have traditionally been bastions where the elite receive their education for generations. A visiting Master from one of these independent schools told me that on average about 26,000 pounds was spent each year compared to about less than half of this in state schools. To close this gap, the Tory Government under Blair and Brown put considerable resources to improve education. The Government set a goal for getting 50% of its students into university. But the results again have been mixed. The Straits Times recently reported that one of Britain’s leading universities, Imperial College London, is introducing a new entrance exam for all its applicants because it believes that the grades in the present UK A-level are so inflated that they can no longer provide a viable way to select the best students. So, some elite schools and Universities want to abandon the UK A levels to opt instead for a new more rigorous Pre-U qualification offered by Cambridge University.

7. Examples of mixed outcomes I have cited are not isolated ones. Unfortunately, for many countries, the quest to educate the masses well through a strong public education system has been akin to going through a maze with inaccurate maps or directions. Many have taken wrong turns or landed up in dead ends. The best intentions and socialist ideals did and could not translate into practical and effective outcomes for students. Why is this so? Have we asked too much of the education system? Does the fact that there are few systems that do well, teach us anything? Pointedly for us, how has the Singapore education system performed and how do we improve it further?

SINGAPORE – RESPECTED FOR ITS EDUCATION SYSTEM

8. The Singapore education system is well regarded internationally. I say this with humility and almost with a sigh of relief because we could have easily veered off track, as I will explain later. The International Institute for Management Development (or IMD) World Competitiveness Yearbook for 2008 ranked Singapore first for having an education system that best meets the needs of a competitive economy. At the school level, our 10 and 14-year old students came out tops in both Maths and Science among 49 countries in the 2003 Trends in International Mathematics and Science Study (or TIMSS for short). I show this slide to show our top ranking. But more importantly, note that our lowest quartile is above the median of the world. In other words, students who are academically weaker do better in our system compared to others. Singapore also ranked fourth for reading literacy skills among 40 countries in the 2006 Progress in International Reading Literacy Study (PIRLS), the highest among non-native speakers who took their tests in English. Good universities the world over, recognise that our students are well schooled and competent and welcome their admissions. Our top students can easily compete with the best anywhere. Sizeable numbers enter Oxbridge, Imperial College, LSE, Warwick and the Ivy leagues. Raffles Junior College for example sends more students to the top 10 US universities than any other international school, and even topped many prestigious secondary schools within the US.

9. We have a system that produces high averages and we topped international rankings in Maths and Science. This is a considerable achievement, considering that in 1980, less than 30 years ago, only about 58% of our Primary 1 students completed secondary school. What were the reasons for this dramatic turn around? If we are to chart future directions, we must first understand the reasons for our success, lest we inadvertently weaken the foundations that sustain us as we move forward.

LESS THAN A FORTUITOUS START

10. Historically, it is important to appreciate that the high quality education system we have in place today was not a given. Singapore did not have the advantage of strong foundations. On the contrary, we inherited disparate systems with different modes of instruction and varying standards. When the first PSLE was inaugurated in four languages in 1960, only 45% passed! A book by Mr Tan Yap Kwang, past Chief Executive of the Singapore Examinations and Assessment Board, entitled “Examinations in Singapore – Changes and Continuity (1891-2007)” provides a succinct historical account.

11. As a trading post with streams of migrant populations, Singapore had a mix of vernacular schools for each of the four large language groups. They were of varying standards, had different curricula and were subject to diverse influences from their countries of origin.

12. A few English-stream schools were set up, such as Raffles Institution, Gan Eng Seng School, Outram School and Victoria School. These later became government schools, which are still with us today. Others were private schools founded by missionary and community groups such as St Joseph’s Institution and Anglo-Chinese School. These English-stream schools were supported by a systemic organisation of English medium examinations from the UK, and had the most structured system of education. They were also favoured by the government as they promoted the language of the colonial administration. But only a small proportion attended these schools.

13. The majority of Chinese attended Chinese-stream schools set up by the different dialect groups and clans. They were pro-China in outlook and syllabi, and followed China’s 6-3-3 education system. These Chinese schools proliferated in the early 1900’s, and were fuelled and politicised by exiled reformers and revolutionaries from China. However, graduates from this system

had no recognised qualifications and found it hard to find jobs compared to those from English-stream schools. Many became disgruntled and easy targets for the Communists. The Malay-stream schools received more support from the government as it was thought that the learning of Malay language would be useful to the acquisition of English Language. Opportunities were given to Malay students who did well to continue to an English-stream education. Tamils too had their own vernacular schools, but these were generally fewer in numbers due to the small population of Indians in Singapore.

14. For the better part of Singapore's history, educational standards were low. The curriculum delivered by most schools under the colonial system was largely designed with the objective of staffing the lower ranks of the civil service. The proliferation of vernacular schools also made it difficult for the government to build a united and loyal citizenry, let alone raise education standards through a national curriculum and modes of assessment.

15. One entirely plausible scenario with this structure was that Singapore could have evolved into a stratified society based on disparate school systems. It would have created tensions and fault lines as groups were exposed to different influences in their formative years. Other countries have gone that way and suffered damaging consequences. But fortuitously, we did not fall into that trap and from the 70's and 80's, fundamental and radical shifts would pull up our system. It would elevate our education system but intrinsic to this process, it would also shape what we became as a nation. As in most things in life, trade-offs and consequences were part and parcel of momentous decisions.

CORNERSTONES OF OUR EDUCATION SYSTEM

(A) USE OF ENGLISH

16. The first fundamental shift was the decision to use English as the medium of instruction in our schools. Parents given the choice of English saw the practical benefits and opted for it in droves. The concept of globalisation was nascent and we would reap rich harvests as English became the lingua franca of an exploding information age to come. We did not envisage the magnitude of that change, but when it came, it enabled us to leap-frog many nations, and also allowed us to improve the teaching of Maths and Science and technologically based subjects. Ex-post, that the choice of English conferred enormous advantages seems almost a no-brainer of a choice in today's context. But recall that in the 1950s and 60s, Singapore was a very diverse collection of people. Our citizens had different languages and cultures. We could have done what other countries did, which was to adopt the language of the majority race - Chinese. Or adopt Malay as our official language so that we could assimilate well with our neighbouring countries. We would be a very different Singapore today if we had made other choices.

17. Take Sri Lanka as a comparison. Its citizens were adept English speakers when Sri Lanka was still a British colony. However, in the 1950s, with nationalism on the rise, the government replaced English with Sinhalese as its official language. Today, English has been relegated to a third language [after Tamil] in schools, and spoken by only about 10% of the population. Successive Governments have thought of re-introducing English but unfortunately, it is not easy to turn back the clock. A Sri Lankan Minister shared with me that even if the government wanted to switch back to using English as a medium of instruction, it would take many years to train enough English-speaking teachers.

18. Malaysia too offers lessons. Like Singapore, it started out with vernacular schools which adopted each of the four language groups as their medium of instruction. In 1967, Bahasa Melayu was declared the sole national language and subsequently became the medium of instruction in all national schools. However in 2003, the government decided to switch to English in teaching Maths and Science, recognising that this would be useful in preparing young

Malaysians for the globalised world. Unfortunately, implementation will not be easy. A whole generation of young people, namely those who are in their mid-forties and younger, have grown up with Malay as their medium of instruction. It will take time for a large enough corps of English teachers to be built up. This challenge is especially acute in the rural areas, where there is a shortage of English teachers. A report published by The Star in January 2007 indicated that many teachers were still hesitant to teach Maths and Science in English, due to a lack of confidence and competency.

19. East Timor is yet another interesting country that offers lessons in real time. When it gained its independence in 1999, it chose Portuguese, now only widely used in Brazil and Portugal, some parts of Africa, and a declining group in Macau. Text books in that language are not easy to come by. This is of course just a thought exercise, but would the trajectory of East Timor be different if it had chosen to emphasise English?

20. Singapore chose that path. Not only did we choose English, but we start teaching it to our young as their first language. It has proven to be hugely beneficial for economic progress, but there are of course other consequences. Because the language that one uses to read, think and speak also determines who the person is as an individual. Collectively, the language environment shapes our national psyche and rubric, and in some respects, our core values.

21. Ensuing trends have become irreversible. Our language environment has changed over the years. In 1996, a third of Primary One students came from homes where English was the main language. Just a decade later, in 2006, slightly more than half speak English at home. Our rigorous teaching and emphasis of English as a common working language has enabled young Singaporeans to be culturally adaptable to Western societies. For instance, many of our young people who set foot into the US for the first time as university students quickly feel at home with the thoughts, surroundings, people, and society at large.

22. Multinational companies like to headhunt Singaporeans as they can bridge the gap between East and West. With rising affluence and education, inevitably, we will see an increasing number of Singaporeans who work, travel and live in other parts of the world. This easy adaptability to the larger World does obviously impact on their sense of rootedness here.

23. Values and rootedness are transmitted powerfully through the shared formative rituals and experiences within families and the broader community. Language is a rich medium intricately woven into these processes. The language and cultural milieu in childhood has far reaching consequences that extend into adulthood. Take Denmark as an example, where all children are taught in Danish first in preschool and early primary and only start to learn English from the 3rd grade, 9 years old. So while they are able to speak English competently, the rootedness and the cultural milieu remain distinctively Danish.

24. Some Asian countries too like Taiwan, Thailand, and Hong Kong start learning English later and as a second language. Observing what goes on in their restaurants or retail outlets reveals insights into the social dynamics facilitated by their native language which results in a higher level of bantering and interaction, across socio-economic class.

25. We recognise its social consequences but the teaching of English as our first language has gotten us to where we are today, and it would be foolhardy to tinker with this. Our strong English competency will continue to provide us with a competitive edge. At the same time, we must make the effort to evolve social norms and platforms that provide a greater sense of home and Singaporean-ness.

(B) BILINGUAL POLICY

26. The second cornerstone of our education system is the bilingual policy, where all students learn both English and their Mother tongue. The bilingual policy reconciled the tensions between progressing into modernity through

English against the loyalties to native language and customs from deep-seated communal ties. Bilingualism allowed each ethnic group to retain and touch their cultural lodestone. At a national level, it has helped our society embrace diversity and established linkages to the wider World. And travellers here notice it.

27. Recently, royalty from a large Middle-East country made official visits to this part of the world. He had two days at the end of the official trip for his own leisure. His officials recommended going somewhere else but he insisted on spending his free time in Singapore. What did this wealthy, well-travelled royal, who could choose to be anywhere else, find appealing about Singapore? He put it simply but powerfully when he said that he felt comfortable and welcomed here. No one gave him strange looks, whatever his garb. He also liked our green spaces and our friendly service.

28. Our bilingual policy has also enabled us to plug into the rest of the world. Our Institutes of Higher Learning have been able to form linkages with ease, not only with other institutions in English speaking countries but also with those in China, India, Malaysia and Indonesia. Such alliances and partnerships are reaching new heights. With rising numbers, NTU has been holding its convocation for its China-based graduates in China for the past 2 years. Even our Primary and Secondary schools have established strong networks with their international counterparts. Last year, more than 50,000 students from over 300 schools were involved in overseas programmes. China and Malaysia were their top two destinations.

29. But we must also accept that it will be increasingly difficult to maintain mother-tongue language competencies as more speak English as their main language at home. So our teaching and testing of English and Mother Tongue language must evolve to respond to this new trend. Students have a finite capacity, and it is not realistic to assume that they can master all things.

(C) STREAMING

30. The third cornerstone of our education system is streaming. Singapore owes a great debt of gratitude to Dr Goh Keng Swee for his report in 1978, which is commonly referred to as the Goh Report. Where it would have been simpler to avoid hard truths, this report was underpinned by the fundamental belief that students had varying learning ability, and would therefore be better off being grouped together to learn at their appropriate pace. Put simply, streaming allows each child to better fulfil his inherent potential.

31. Singapore today has reaped the benefits of that difficult transition. I showed how even our weaker students are performing well by international standards earlier. Before streaming, 29% of primary school students did not progress to secondary education either because they dropped out or did not pass the PSLE. These high levels of attrition still occur today in other systems that attempt to wallpaper the differences. For example, many researchers have highlighted the growing concern that up to 1 in 3 high school students in the US do not graduate.

32. In contrast, in Singapore, with ability-based learning, 98.4% of each cohort stay in school and receive 10 years of education. All graduates, whether from ITE, the polytechnics and universities, receive high quality education and are employable after graduation. This is no mean feat by any yardstick.

33. But of course, there are important caveats. Streaming must lead to better outcomes and be matched with adequate resources to help stretch each child to his maximum. It must not erode self-confidence or the belief that they cannot go further. We must reduce stigmas and labels. This is why MOE has refined this policy to subject-based banding, as an example in primary schools. We also create many opportunities for late bloomers to move across to more advanced levels. Life teaches us that there are many variables beyond academic ability which determines who succeeds. Our education system should not say or teach otherwise.

(D) TEACHERS AND TESTING

34. English and our bilingual policy and streaming created a stable framework from which we could build a World class education system. They were necessary and vital, but not sufficient. Two other critical components were quality teachers and school leaders, and yes, the proverbially maligned exams or assessments.

35. A report by McKinsey released last year studied top-performing education systems worldwide and concluded that quality teachers were the most important determinant of a quality education system.

36. Passionate, competent and caring teachers are at the heart of success of good education systems. Show me a weak education system anywhere, and without exception, you will find as a cause, an equally weak and demoralised teaching force. That our students do well and that our standards are well regarded internationally bear positive testament to the professionalism and commitment that exist in our teaching force.

37. We hire from the top one-third of each cohort and invest heavily in teacher training. We have 29,000 teachers and believe in supporting all of them along their journey from the time they join us as trainee teachers, and provide them with opportunities to upgrade themselves over time. Teachers can also now apply for Masters and Doctoral Study Leave after their first two years of teaching. We provide grants and loans to support them.

38. Besides good teachers, instruction counts. Curriculum and pedagogy are nuts and bolts that secure the system and we have a strong centralised system that oversees these essentials. We have achieved enviable outcomes because good teachers teach well in the classroom. More senior and experienced colleagues share best practices while new teachers learn through observation and role models.

39. Testing works. All top education systems set clear and high expectations for their students. We are no exception. Our strong assessment system has produced students of high calibre. We also want our schools to be accountable for what they do. Thus every school undertakes regular self-evaluation, with external reviews by the Ministry taking place once every five years. Students or schools that have difficulty reaching set standards are given additional support to improve.

A GOLDEN MEAN

40. To summarise, our success can be attributed first to socio-political considerations in the choice of English and the bilingual policy and then putting into place sound educational fundamentals of good teachers, instruction and streaming. These are the factors that maintain us on an even keel. We must keep each of these elements, but at the same time, we must also evolve our system to keep up with new challenges and structural trends in the future. I will just mention three broad directions.

GREAT EXPECTATIONS

41. Because we have progressed, parents today are better educated and have more financial resources. Their expectations for their children, and their children's education, will be much different, compared to the expectations that their parents had of them. A child born today who will enter Primary 1 in 2014, will be substantially different in his upbringing and exposure compared to one who entered that same grade say, twenty years ago.

42. For future cohorts, one thing is certain – there will be greater expectations and this in itself is not negative. But it will mean requiring more teachers to have higher qualifications, as well as having more teachers so that more time can be

spent to develop each student. Employing enough good teachers to support these expectations with that passion to teach and nurture will be a continuing challenge.

43. To provide for more individual attention, we must empower principals and teachers to be able to develop each student under their care. This necessarily means more autonomy for our schools and this can only work if there are competent school leaders. Hence our continual focus on attracting, developing and retaining good teachers and school leaders.

HIGHER ASPIRATIONS

44. We also see growing aspirations among Singaporeans. We recently announced the set up of a fourth publicly funded University. But we should explore more effective ways to help polytechnic and ITE graduates upgrade in their working careers. A further three or four years of full-time education beyond their post-secondary education to achieve a degree cannot be the only and even preferred option. For many, there is a high opportunity cost as they are in great demand and eminently employable with their diplomas or ITE certificates. Life long learning will be increasingly necessary as technology cycles shorten and knowledge and skills risk obsolescence quicker. We should find ways and facilitate where possible, more efficient ways to help them upgrade in a shorter period, without them having to stop work altogether for long periods of time.

BEYOND GRADES: VALUES

45. Our system is one that is admired for having high averages. We must maintain this academic rigour and continue our emphasis on maths and science. For a small country, it makes sense for our survival and continued prosperity, both as a nation and individually. But increasingly, we will have to create space

and structure to infuse our education system to impart values and not just grades to students. This has to keep in step as Singapore moves to a higher plane of actualisation. We must respond to a more questioning younger population that may learn better through self discovery and an exchange of views. But at the same time, we must find engaging ways to increase the sense of rootedness. We must help our young understand how Singapore of today has derived our core values. They can test these values, choose to reject them, or create new ones and accept consequences of their own making. At the end of their journey in our education system, they must leave it with a sense of wholeness and preparedness, and a desire to contribute to preserve, maintain and improve themselves and the lives of those around them. They must leave our education system confident of their self worth, and capable of being productive citizens.

46. How do we move our system forward to place greater emphasis on these values beyond academic achievement? This is a challenge with no quick solutions. But leaders and principals in MOE feel deeply that this is the direction to take our education system forward, to better develop our children. We are mindful that mere wishing will not get us there, so we are carefully reviewing how this can be embedded into each school, how to impart values and maintain academic standards, and how both sets of achievements ought to be monitored.

CONCLUSION

47. Our education system has evolved over time, in response to the changing needs of our nation, as well as the external environment. We have a first class education system that is respected internationally. But we can always do better. We want to maintain high educational standards that give every Singaporean student a valuable cachet and recognition worldwide. Moving forward, we want to create more space and focus in our system to impart values to our children. We want to nurture each child, to believe in himself and be self-sufficient, to care for his fellow man, and to be able to contribute to the larger society around him.

These are simple goals of any public education system, but few can say that they have delivered. Singapore must aspire to attain these worthy educational goals. MOE will lead the way, but to succeed, we will need all stakeholders to support these initiatives.