

**SPEECH BY PRIME MINISTER GOH CHOK TONG AT THE
OPENING OF THE 7TH INTERNATIONAL CONFERENCE ON
THINKING ON MONDAY, 2 JUNE 1997, AT 9.00 AM AT THE
SUNTEC CITY CONVENTION CENTRE BALLROOM**

**SHAPING OUR FUTURE:
THINKING SCHOOLS, LEARNING NATION**

**Future Wealth Will Depend
on Capacity for Learning**

A nation's wealth in the 21st Century will depend on the capacity of its people to learn. Their imagination, their ability to seek out new technologies and ideas, and to apply them in everything they do will be the key source of economic growth. Their collective capacity to learn will determine the well-being of a nation.

2 We know three things about the future. First, it will be an intensely global future, with diminishing barriers to the flow of goods, services and information. Competition between cities, countries, sub-regions and regions will be intense. No country or region will have permanent advantages. There is no guarantee that it will always retain its competitive edge.

3 Second, knowledge and innovation will be absolutely critical. The recent victory of the computer Deep Blue over chess champion Gary Kasparov was not a triumph of machine over man but the triumph of human innovation, of organised human mastery of technology. Companies and nations which organise themselves to generate, share and apply new technologies and ideas more quickly than others will, like the early bird, catch the worm.

4 The third defining feature of the future is that it will be one of change, and increasingly rapid change. It will be change as a permanent state, not change as a transition to some known, final state. Change will be unpredictable but it will affect everything we do at work, in society and at home.

5 We have to prepare ourselves for a bracing future - a future of intense competition and shifting competitive advantages, a future where technologies and concepts are replaced at an increasing pace, and a future of changing values.

6 Education and training are central to how nations will fare in this future. Strong nations and strong communities will distinguish themselves from the rest by how well their people learn and adapt to change. Learning will not end in the school or even in the university. Much of the knowledge learnt by the young will be obsolete some years after they complete their formal education. In some professions, like Information Technology, obsolescence occurs even faster. The task of education must therefore be to provide the young with the core knowledge and core skills, and the habits of learning, that enable them to learn continuously throughout their lives. We have to equip them for a future that we cannot really predict.

Education: A Global Reassessment

7 Many countries around the world are recognising the critical difference that education will make. They are taking a fundamental relook at their education systems, assessing their strengths and weaknesses, and putting in place reforms to better prepare their people for the future.

8 The United States is a good example. The Americans are unsurpassed in their ability to produce highly creative, entrepreneurial individuals. Their best schools produce well-rounded, innovative students by putting them through a diverse and challenging curriculum. Their academic institutions and research laboratories are at the forefront of ideas and scientific breakthroughs, and infused with entrepreneurial spirit. And they have developed strong links between academia and industry, society and government. We in Singapore should learn from these strengths of the American system.

9 Employers and government in the US are, however, deeply concerned about the low average levels of literacy and numeracy among their young. President Clinton's Call to Action for American Education in the 21st Century attributes this to a watered-down curriculum and "a tyranny of low expectations" that many schools create among their students. His Call to Action issued four months ago, is a bold national plan. It will introduce national standards and national tests in reading and

mathematics by 1999. It will also connect every classroom to the Internet by the year 2000 to help all students become technologically literate.

10 The new British Government has placed education as its first and most important priority¹. Like the Americans, they face the challenge of reversing a drift in standards that has occurred over many years. While the best British schools continue to nurture and develop rigorous and bold minds, standards nation-wide have declined. The new Government has set a target of having every child leave primary school with a reading age of at least 11, within the next decade. Barely half of them do today. The new strategy will recognise differences in ability among children in comprehensive schools and set them in different classes to maximise everyone's progress. They will focus on "levelling up, not levelling down"².

11 The Japanese start from the other end of the spectrum. Their schools produce a higher average level of learning than in any other developed country. The capacity for learning that takes place in Japanese companies and Japanese society also exceeds that anywhere else. The story of post-war Japan is indeed one of extensive organisational innovation aimed at enhancing and sharing knowledge among all employees, especially on the factory floor. The organisational methods and motivations that the Japanese have developed are an achievement that we should study³.

12 Yet the Japanese themselves believe there are serious limitations to their current educational system. Their mass-orientated school system, with its strict, centrally-controlled curriculum and heavy emphasis on testing students' knowledge of factual content was very successful when Japan was catching up with the West, and relied on knowledge and basic technologies developed in the West. Now that Japan has caught up with the West and in many areas leads the world, Japan's major employers believe its educational system will not produce the individual creativity, the originality

¹ The Queen's Speech on the Opening of Parliament, 14 May 1997.

² Labour Manifesto for Education, The Times, April 4, 1997.

³ These practices were generally absent from Japanese organisations before the war. Some key organisation practices were borrowed from the US after the war and adapted, drawing on traditional social values in Japan. (Robert Cole, 'The Cultural and Social Bases of Japanese Innovation', in *The Political Economy of Japan*, Vol 3, edited by Kumon and Rosovsky, 1992.)

of thought and inventiveness in basic knowledge that they need to retain their competitiveness. They worry about their ability to compete in the software and knowledge-driven industries of the future.

13 MITI's latest White Paper on the Japanese economy, released in May this year, drew attention to education as one of the main issues to be addressed if Japan is to regain its lead in productivity. It highlighted a need to revamp university education, including strengthening post-graduate education to develop more specialists.

Education for the Future: THINKING SCHOOLS, LEARNING NATION

14 Singapore has a strong education system, one that is widely recognised for having produced high levels of achievement among pupils of all abilities. As we prepare for the future, we will draw valuable lessons from how the US, Japan and other nations reform their educational systems to meet their needs. We will observe them closely to understand what works and what does not. But we must devise our own solutions, to preserve our own strengths and overcome our own limitations. We will learn and adapt from foreign experiments where useful, but we must chart our own future.

15 We cannot assume that what has worked well in the past will work for the future. The old formulae for success are unlikely to prepare our young for the new circumstances and new problems they will face. We do not even know what these problems will be, let alone be able to provide the answers and solutions to them. But we must ensure that our young can think for themselves, so that the next generation can find their own solutions to whatever new problems they may face.

16 Singapore's vision for meeting this challenge for the future is encapsulated in four words: THINKING SCHOOLS, LEARNING NATION. It is a vision for a total learning environment, including students, teachers, parents, workers, companies, community organisations, and government.

Towards THINKING SCHOOLS

17 The concept of THINKING SCHOOLS is central to this vision. Schools must develop future generations of thinking and committed citizens, capable of making good decisions to keep Singapore vibrant and successful in future.

18 Our Ministry of Education is undertaking a fundamental review of its curriculum and assessment system to see how we can better develop the creative thinking skills and learning skills required for the future. It is studying how to cut back on the amount of content knowledge that students are required to learn, and to encourage teachers and students to spend more time on projects that can help develop these skills. We will use IT widely to develop communication skills and habits of independent learning. We will also strengthen National Education, through formal lessons as well as experiences outside the classroom, so as to develop stronger bonds between pupils and a desire to contribute to something larger than themselves.

19 Whichever way we cut back and redefine the curriculum, we will ensure our students retain mastery over the core knowledge and concepts that give them the basis for further learning. We must also retain the high standards needed to stretch all our pupils and keep them striving for excellence. Whatever we do, we must not abandon these fundamentals as some others have done. We must not level down.

20 What is critical however is that we fire in our students a passion for learning, instead of studying for the sake of getting good grades in their examinations. I must say this passion is generally lacking among our students, including many among our most able. Their knowledge will be fragile, no matter how many 'A's they get, unless they have the desire and aptitude to continue discovering new knowledge well after they leave school.

21 It is the capacity to learn that will define excellence in future, not simply what our young achieve in school. THINKING SCHOOLS must be the crucibles for questioning and searching, within and outside the classroom, to forge this passion for learning among our young.

22 THINKING SCHOOLS will also redefine the role of teachers. Every school must be a model learning organisation. Teachers and

principals will constantly look out for new ideas and practices, and continuously refresh their own knowledge. Teaching will itself be a learning profession, like any other knowledge-based profession of the future. We will take this into account in reviewing our school curriculum. Teachers must be given time to reflect, learn and keep up-to-date. Then teachers will be able to make the textbooks and the Internet relevant to their students, relating what is learnt to current events and issues.

23 We will also give more autonomy to schools, so that teachers and principals can devise their own solutions to problems. THINKING SCHOOLS will be sites of learning for everyone, including those who shape our educational policies. Schools will provide lessons on how policies are working out on the ground, and give feedback on whether policies need to be changed. This process, of knowledge spiralling up and down the system, will be a defining feature of education for the future.

Towards a LEARNING NATION

24 We will make Singapore a LEARNING NATION, that goes beyond schools and educational institutions.

25 Learning goes beyond simply maximising an individual's potential. A nation's culture and its social environment will shape what learning means, and determine its impact. Everyone counts. What grandparents, parents, students and teachers, employees and managers, and leaders in society take to be true about learning will have a profound impact on whether we respond quickly and effectively as a society to change. Our collective tolerance for change, and willingness to invest in learning as a continuous activity will determine how we cope with an uncertain future. We must make learning a national culture.

26 LEARNING NATION begins by recognising that education is a continuum, starting with the early pre-school years and continuing throughout life.

27 The research on brain development in the last decade indicates that the early years in a child's life are critical for developing the foundations for future intellectual and social development. We have to study the implications of this research. We must develop ways to train parents to

provide their children with rich experiences to help them develop during their initial pre-school years. We should help providers of pre-school education make quality pre-school learning widely available. We must develop an eagerness to learn and to interact in those early years.

28 LEARNING NATION will require innovation at every level of society. We must get every organisation to recognise that every individual, regardless of status, has a contribution to make to improving the organisation. Nearly all Japanese companies put learning and the development of human resources at the centre of their management philosophy. It is not a religious or political principle. It is an approach to human resources that has accounted for the extraordinary improvements in productivity they have achieved in the last few decades⁴.

29 We must also get companies more involved in the education of our young as part of a total learning environment. Many of the leading American companies invest a significant amount of their professional employees' time in 'educational outreach' activities - taking students from schools and giving them hands-on experiences and interesting them in real world technologies. We can follow their example.

30 We must set up comprehensive mechanisms to continually retrain our workforce, and encourage every individual to engage in learning as a matter of necessity. Even the most well-educated worker will stagnate if he does not keep upgrading his skills and knowledge. Every organisation must first recognise the importance of the matter. It must require that its employees go through regular learning as a routine part of working life. Every worker must be mobilised to think actively about how he can do better in his job.

31 We will bring about a mindset change among Singaporeans. We must get away from the idea that it is only the people at the top who should be thinking, and the job of everyone else is to do as told. Instead we want to bring about a spirit of innovation, of learning by doing, of everyone each at his own level all the time asking how he can do his job better. With such an approach of always looking out for improvement, always asking what is the purpose of our job and whether there is a better way to accomplish that

⁴ Even small Japanese companies, lacking the resources to conduct formal training, have developed systematic means of advancing skills and knowledge through on-the-job training.

purpose, we will achieve our ambition of national excellence. Excellence does not simply mean “outstanding”: excellence means each of us at our own level, being the best that we can be.

32 We want to have an environment where workers and students are all the time thinking of how to improve. Such a national attitude is a must for Singapore to sustain its prosperity. THINKING SCHOOLS, LEARNING NATION is not a slogan for the Ministry of Education. It is a formula to enable Singapore to compete and stay ahead. It will provide a breakthrough in a critical area many developed countries themselves need to succeed in. And to the individual, it offers satisfaction in being able to exercise innovation, demonstrate initiative and enjoy the freedom to participate in improving his own life as well as his community and nation. All these add to the spiritual dimension of Singapore 21 - the best home for Singaporeans.

Conclusion

33 The world today is very different from the world 10 or 20 years ago. As change will occur at an even faster rate, we can expect the world in 10 or 20 years' time to be radically different from the one we see today. Our capacity to learn, as individuals and as a nation, will decide our future, whether we stagnate, perish, or continue to succeed.

34 I am most happy to learn that this forum has gathered over 300 distinguished scholars and participants from around the world, not counting those from Singapore. This is a good forum for Singaporeans to exchange ideas with them to help us launch Singapore on the course of 'THINKING SCHOOLS, LEARNING NATION'. I wish you fruitful deliberations.
