

**SPEECH BY DR TONY TAN KENG YAM, CHAIRMAN, SINGAPORE NATIONAL RESEARCH FOUNDATION AND INTERNATIONAL ACADEMIC ADVISORY PANEL, HELD ON MONDAY, 31 AUGUST 2009 AT 9.30 PM AT THE ABU DHABI RAMADAN LECTURE**

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**Education as the Driver of Economic Growth :  
The Singapore Experience**

Your Highness Sheikh Mohammed bin Zayed Al Nahyan  
Crown Prince of Abu Dhabi and  
Deputy Supreme Commander, United Arab Emirates Armed Forces

Distinguished Guests

I would first like to thank His Highness Sheikh Mohammed bin Zayed Al Nahyan for honouring me with the invitation to speak at His Highness's Ramadan Lecture.

2 The topic of my lecture this evening is :

“Education as the Driver of Economic Growth : The Singapore Experience”

I will divide my lecture into five parts:

- i) Brief summary of Singapore's Economic Growth over the last 50 years;
- ii) Evolution of Singapore's Education System with particular reference to general education (including teacher training), technical education and university education;

- iii) Recent developments in Research and Education in Singapore;
- iv) New Initiatives in Education in Singapore;
- v) Concluding Remarks on the Nexus between Education and Economic Growth.

## PART ONE - THE GROWTH OF SINGAPORE'S ECONOMY

3 Singapore is a small young nation with a relatively short history, gaining self-governance in 1959 and independence in 1965.

Over the last fifty years, Singapore has moved from 3<sup>rd</sup> world to 1<sup>st</sup> world and built a modern economy with one of the highest per capita incomes in Asia.

### Singapore in the 1960s: Labour Intensive Economy

4 In the 1960s, Singapore faced the challenge of weak economic fundamentals.

Labour participation was low, unemployment was high and the labour force was poorly educated.

In the region, political changes limited Singapore's access to the regional market.

5 The international environment, on the other hand, presented opportunities. The combination of threats and opportunities prompted a shift in Singapore's economic development strategy from entreport trade to export-led industrialisation.

6 Going against conventional wisdom at that time, Singapore opened its economy to foreign investments and leveraged on Multi-National Companies (MNCs) to gain access to technologies, markets, and management expertise.

7 To improve the investment climate, the Singapore Government laid down employment standards and built institutions to help manage labour-management relations.

The Government also invested heavily in both physical infrastructure like transport and communications and soft infrastructure, particularly the necessary business and legal systems.

8 Together with monetary stability and fiscal prudence, Singapore's pro-business environment made it attractive for MNCs to invest in Singapore.

The successive inflows of foreign capital enabled Singapore to quickly build up its manufacturing base, which doubled between 1965 and 1980.

Over the same period, GDP growth averaged 10% per annum.

Robust growth and sound economic fundamentals enabled the country to weather the oil crisis-induced slowdown in 1974, and transit into the next stage of economic development in relatively good shape.

9 By the late 1970s, industrial restructuring had become necessary.

Rapid economic growth created problems of labour shortage.

Employers had little incentive to invest in worker upgrading as wages were kept cautiously low.

Externally, Singapore faced increased competition from low cost countries in the region.

### Singapore in the 1980s: Capital Intensive Economy

10 In response, Singapore pursued the strategy of shifting from labour-intensive activities to more capital-driven and higher value-added industries.

Fiscal incentives were introduced to encourage automation and mechanisation, while efficient labour utilisation and productivity enhancements were encouraged.

Singapore's investment efforts also targeted manufacturing industries that were technology-intensive, such as computer parts, machinery, aerospace, petrochemicals, pharmaceuticals and biotechnology.

11 The sharp pace of ‘catch-up’ growth in the 70s and 80s meant that resource constraints and diminishing returns to investments were beginning to set in in the 90s.

As a result, the cost-productivity advantage Singapore enjoyed over other countries began to narrow.

12 On the other hand, Singapore’s indigenous technological capabilities were still relatively shallow compared with many developed economies and some newly industrialized economies.

Government spending on R&D as a percentage of GDP was also below that of many developed countries.

### Singapore in the 2000s: Knowledge Intensive Economy

13 As Singapore’s economy matures, rapidly rising costs will further erode Singapore’s attractiveness as an industrial and business centre.

To maintain Singapore’s economic progress, Singapore is transiting to a diversified knowledge-based and innovation driven economy with high value-added industries and services.

For Singapore to become a nation of innovators and designers, there must be investment in education and development of human capital.

14 Being a small country with limited natural resources, the training of human capital is of crucial importance for Singapore's evolving economic structure.

As Singapore progresses through the different stages of development, more skilled workers, technicians and university graduates will be needed to fill the jobs available.

The key to success is the vital role played by the Singapore education system as a cornerstone of Singapore's economic strategy.

## PART TWO - THE EVOLUTION OF SINGAPORE'S EDUCATION SYSTEM

15 Let me now move on to talk about the evolution of Singapore's education system over the last fifty years and how Singapore's education system has developed in capacity and depth in line with the needs of Singapore's economic development.

16 I will look at key milestones in three areas :

- i) General Education (Primary and Secondary Education) and Teacher Training
- ii) Technical Education
- iii) University Education

## General Education

17 When Singapore achieved self-government in 1959, it inherited a patchwork of schools, teaching in different languages and using curricula from the countries of origin of its main immigrant communities.

The British had set up a small number of English-medium schools to train staff to man the junior ranks of the bureaucracy, as had some Christian missions.

18 Forging a new nation from such diverse threads was the first challenge for the new Singapore government.

It did so, by first according equal treatment to all language streams and introducing a national curriculum.

The Singapore Government also went on a building spree and hired thousands of school-leavers to become teachers, in order to deliver on its promise of giving each child a place in school.

In the rush to build a mass school education system, quality inevitably suffered.

Drop-out rates in schools were high and standards of achievement were low.

19 To improve the education system and reduce drop-out rates, Singapore introduced streaming in schools in 1980, ie. tracking students into different groups according to their respective academic capabilities and teaching each group at a pace that the students could cope with.

This policy succeeded in raising achievement levels and reducing drop-out rates.

At the primary level, the dropout rate fell from 6% in the late 1970s to almost zero in the 1990s.

Similarly, at the secondary level, the drop-out rate fell from 13% in the 1970s to less than 1% in the 1990s.

The Singapore Government also put in place other improvements including making teachers' pay competitive, and allowing some high-achieving schools to become independent schools so that they could foster innovative teaching and learning and blaze a trail for other schools in Singapore to follow.

20 Singapore's education system is, today, recognised internationally for its rigour and high standards.

Information technology (IT) is now pervasively used across all schools.

Achievements in Mathematics and Science are high and internationally benchmarked.

The school curriculum extends beyond formal academic instruction to include a rich menu of co-curricular activities, in the arts, sports, and uniformed youth organisations.

### Singapore's Bilingual Education Policy

21 Since independence, Singapore has implemented a bilingual education policy.

All students in Singapore are required to study two languages – English and their Mother Tongue.

For practical reasons, Singaporeans have to achieve a high standard in English which is Singapore's working language and the language of business and commerce throughout the world.

A knowledge of English equips Singapore students to interact with people from around the world, work in companies from advanced economies like the United States and Europe and have the tools to master skills in subjects like Science and Mathematics.

In Singapore's multi-racial, multi-lingual, multi-cultural society, communication between Singaporeans of all races is facilitated using English as a common language.

This has strengthened Singapore's social unity and resilience.

22 Keeping in mind the natural desire of communities in Singapore not to lose their cultural roots, the Singapore Government has always made sure that, in addition to English, Singapore students learn their Mother Tongue as a Second Language.

Learning their Mother Tongue enables Singaporean children to know who they are and helps them to maintain their identities.

It is the key to their historical roots and their past.

The learning of the Mother Tongue helps Singaporean children to be in touch with the history, culture, traditions, learning, music, songs and literature of their respective racial and cultural groups.

23 For these reasons, the Singapore Ministry of Education provides facilities for students to learn English (one of Singapore's four official languages) as the main language of instruction in schools.

With Mandarin, Malay and Tamil as Singapore's other three official languages, the Ministry of Education also provides facilities for students to learn Mandarin, Malay or Tamil, depending on their respective racial groups.

In place of Tamil, Indian students can choose to study one of five other Indian languages – Bengali, Gujarati, Hindi, Panjabi and Urdu.

Learning Mandarin, Malay or an Indian language has an additional advantage. It helps to connect Singapore students to three fast developing regions in the world – China, South-East Asia and India.

24 Singapore's bilingual education policy has made it possible for Singapore students to acquire the skills to be gainfully employed in Singapore's modern economy but still remain connected to their historical roots.

The policy has been beneficial to Singapore students enabling them to spread their wings while remaining deeply rooted in their traditional cultures and identities.

Even after fifty years, bilingualism remains the cornerstone of Singapore's education system.

### Teacher Training

25 As competent, able and committed teachers are the backbone of a good education system, Singapore has always paid particular attention to the training of teachers and giving them the necessary values and skills to be able to carry out their duties in class.

Teacher training in Singapore has a long history starting with the Teachers' Training College in the 1950s which offered only Certificate courses in Education for non-graduate students.

In the 1970s, the Teachers' Training College was upgraded to the Institute of Education (IE).

Besides the 2-year full-time Certificate in Education programme for non-graduate students, IE offered a 1-year full-time Diploma in Education programme for graduate students.

The Institute of Education expanded its activities in the 1980s to include a College of Physical Education which was set up as an autonomous College within IE to train specialist teachers in physical education.

In 1991, the Institute of Education and College of Physical Education were merged to form the National Institute of Education (NIE), as an institute of the Nanyang Technological University.

As part of the University, NIE offered degree programmes in education for the first time.

26 Today, Singapore recruits teachers from the top one-third of each cohort and trains them well over the pre-service and in-service levels from trainee teachers to principals.

Teachers are also subject to annual performance appraisals.

Recognition in the form of bonuses and promotions are based on performance and the teachers' abilities to carry out higher level duties.

### Technical Education

27 While school education is foundational, there has always been a clear focus in Singapore on ensuring that students are prepared for the future.

In the 1950s and 1960s, the school curriculum had a strong bias towards technical education to give Singaporeans the skills to work productively in a modern industrialised society.

As Singapore's economy upgraded, we have retained a strong focus on Mathematics and Science, so that our young people are equipped with the knowledge and skills to master new technologies, to be ready for the knowledge-intensive industries of the future.

## Vocational Education

28 Vocational training is the “neglected child” in most education systems around the world – under-funded, with low public image and even lower self-esteem among its students and teachers.

For an Asian society like Singapore, traditional reverence towards scholarly pursuits and in comparison, the low value attached to working with hands was an added challenge.

And indeed in the early years, vocational institutes were seen as the “dumping ground” for those who could not make it to the academic route.

29 The establishment of the Institute of Technical Education (ITE) in 1992 helped to change the image of vocational training.

It marked a transformation of the vocational training system from a place for premature school leavers to a post-secondary system welcoming those who had completed at least 10 years of general education.

With rapid industrialisation and growing sophistication of the economy, there was high demand for skilled manpower, at the Certificate and Diploma level. Graduates from the Institute of Technical Education (ITE) and the polytechnics found good-paying jobs easily.

Parents began to sit-up and noticed that having their children attend the ITE or the polytechnics was a viable pathway.

30 To ensure that the ITE training environment remains relevant in the new millennium, the government decided in 2002 to consolidate ITE's 10 campuses distributed all over the island into a "One ITE System, Three Colleges" model. Under this model, each of the 3 regional colleges will have the critical mass to innovate, optimise resources and offer a better overall educational experience for its students.

Each college will specialise in different areas of industry growth, while offering similar courses in core, high demand areas such as IT and Engineering.

Today, one College is up and running, while two more are being built.

In the next few years, the transformation will be complete.

31 At ITE, students learn in a purpose-built facility, with modern and industry-relevant training facilities and equipment.

Students also enjoy a full suite of sports and recreational facilities on-campus, including running tracks, swimming pools and studios.

The Singapore Ministry of Education invests substantially in each ITE student just as the Ministry does for each student going through the academic pre-university route.

32 Similar to the polytechnics, ITE works closely with many MNCs and leading technology companies under Memorandums of Understanding (MOUs).

These companies transfer technology, and provide hardware and software to ITE at minimal costs.

In return, ITE provides training on their latest equipment for their clients.

Each year, some 14 MOUs are signed with MNC partners from various fields - ranging from animation production and design to information technology.

ITE's close collaboration with industry partners on curriculum development and student industrial attachment programmes helps to ensure that its courses and graduates are tailored to the needs of industry.

In recent years, in tandem with changes in the economic structure, ITE has been building up its capability in offering courses in the service sector.

It set up a new School of Design & Media this year, to produce manpower for an emerging growth sector.

### Polytechnic Education

33 Starting with Singapore Polytechnic (SP) in 1954, polytechnics were set up to develop an indigenous supply of quality manpower, particularly in science and technology.

The focus then was to impart a strong technical bias to the education system, as there was a need for Singaporean youths to acquire the knowledge, skills and habits necessary to power a rapidly industrialising economy.

SP was set up to train middle level technical and supervisory manpower.

At that time, it concentrated solely on technical training.

To date, Singapore has five polytechnics with a combined enrolment of about 70,000 students.

34 Over the years, our polytechnics have sought to move up the value-chain and refresh themselves by diversifying their course offerings and making innovation a key part of their value proposition.

Besides updating their engineering diploma course offerings (e.g. aeronautical engineering, clean energy, bioelectronics, etc), the polytechnics have taken on emerging fields like Interactive Digital Media and Life Sciences.

Our polytechnic graduates are well equipped and valued both locally and internationally for the high quality of their training, and their hands-on, "can-do" attitude to work and learning.

35 Each polytechnic maintains partnerships in various industry sectors to ensure the companies' manpower needs are met and developed.

In return, the companies would work closely with the polytechnics to provide opportunities for authentic student training, to develop new areas of competency, as well as engage in applied R&D.

The types of collaborations may include Memorandums of Understanding (MOUs) with MNCs, industry projects and consultancy services.

## University Education

36 In Singapore, universities are viewed as key centres of excellence to foster local talent and to attract foreign talent to the country.

However, take-off in the university education occurred only after the other key pieces of the education system were well in place.

37 In 1980, only 5% of our local primary one cohort took part in university education, compared to today's 25%.

The National University of Singapore (NUS) then enrolled 8,600 undergraduate students every year.

Today, Singapore has three publicly-funded universities – NUS, the Nanyang Technological University (NTU) and the Singapore Management University (SMU), with a combined undergraduate student enrolment of over 50,000 students.

Plans for a fourth university are currently underway.

The universities are well-regarded globally, and their graduates have contributed significantly to the growth and development of Singapore.

## The National University of Singapore

38 In the 1960s and 70s, the emphasis at the university level was to rapidly expand enrolment in order to produce the professional manpower needed to staff a growing economy and to meet social needs.

It was very important to ensure that the rapid expansion of university enrolment did not result in lower educational standards.

In 1980, the National University of Singapore was formed with the merger of Singapore's one public university and a Chinese Language university set up by the community.

39 Today NUS has come a long way and is recognised as one of the leading Universities in Asia and the World.

NUS is actively involved in international academic and research networks such as the International Alliance of Research Universities and the Association of the Pacific Rim Universities.

In fact, NUS was elected to lead the 36-member Association of the Pacific Rim Universities for two terms, an endorsement of NUS' international standing and capabilities.

### Nanyang Technological University

40 In the late 1970s and 80s, Singapore was shifting from labour-intensive activities to more capital-driven and higher value-added industries.

To train practice-oriented engineers for the burgeoning Singapore economy, the Nanyang Technological Institute (NTI) was set up in 1981 with three engineering schools.

Ten years later, NTI became Singapore's second public university, Nanyang Technological University (NTU) with the absorption of the National Institute of Education (NIE), which is Singapore's teacher training institute.

41 Today, NTU as a comprehensive university, has established an international reputation and nurtures tech-savvy, entrepreneurial leaders through a broad education in diverse disciplines, including the Humanities and Social Sciences.

The more broad-based curriculum offered by NTU aims to equip its undergraduates with flexible skill-sets to better adapt to the demands of the new economy.

### Singapore Management University

42 In 1997, the Government decided to set up a third university to provide more choices for Singapore parents and students.

The Singapore Management University (SMU) took in its first intake in 2000.

Located in the city, SMU was envisioned to be different from the two established institutions, NUS and NTU, as it would adopt an American-style broad-based education in contrast to NUS and NTU's British-style system.

Modelled after the Wharton School of the University of Pennsylvania, SMU would focus specifically on business disciplines and enjoy wide autonomy in its operations and pedagogical approach.

43 SMU was an experiment in disruptive change which worked out well. SMU provided healthy competition to the more established business schools in NUS and NTU and also enhanced the diversity and quality of educational offerings for students in Singapore.

Since its first graduating class in 2004, SMU graduates have been readily employed in a wide spectrum of professions, including finance, accounting, consulting and services sectors, and are well-regarded by industry.

### PART THREE - RECENT DEVELOPMENTS IN RESEARCH AND EDUCATION IN SINGAPORE

44 For the Singapore Universities to progress to the next level, they have to evolve beyond their traditional function of knowledge dissemination, training and education to become world-class research intensive institutions.

Universities have to serve as the powerhouses of knowledge creation as well as facilitate the efficient diffusion of the created knowledge for the benefit of the economy and society.

Only when these new discoveries and technologies leave the realm of academia and into the society and economy, in the form of products and services, will their impact be felt.

45 This is especially important in a knowledge-based economy where ideas and innovations generate wealth.

The Singapore Government has committed to provide more resources for Research, Innovation and Enterprise.

Singapore universities will be able to leverage on the additional resources to enhance their research endeavours, as well as boost the overall quality of educational and entrepreneurial experience for their students.

46 One of the initiatives by the Ministry of Education and the Singapore National Research Foundation (NRF) is to establish a small number of world-class Research Centres of Excellence (RCEs) at the Universities.

47 The RCEs are a targeted investment intended to produce high-impact, high quality research at the international cutting edge of their respective fields. The fertile environment will seed new ideas and facilitate breakthroughs in new knowledge, enabling our universities to achieve high peaks of excellence in selected impactful areas that are aligned with the long term vision of strategic interest to Singapore, and to build up a critical mass in research capabilities.

48 Top faculty begets top faculty and students. Hence, the RCEs are headed by eminent scientific leaders who will conduct investigator-led research with global impact.

By creating a concentration of world-class researchers, the RCEs will also generate a vibrant intellectual environment and research culture to draw in other research talent, including top quality post-doctoral researchers and graduate students.

49 The presence of top research talent will enhance the quality and attractiveness of our graduate education programmes, and through the close linkages with our universities, the RCEs will help our universities achieve even higher peaks of excellence.

So far, four RCEs have been set up in various fields namely, Quantum Technology, Earth Science, Cancer Science and Mechanobiology.

50 To further develop research and development in Singapore, the Singapore National Research Foundation (NRF) is undertaking a bold initiative to partner with selected top research universities around the world to develop a campus which will house world-class research centres in Singapore.

We have called this initiative the Campus for Research Excellence And Technological Enterprise or CREATE for short.

51 CREATE is a “campus in the gardens,” which aims to bring together some of the worlds’ top research universities to Singapore to research on major

global challenges in collaboration with Singapore's universities and research institutions.

When fully implemented, CREATE will have some 1,000 researchers.

The concentration of diverse talents doing cutting edge research in CREATE would act as a magnet for attracting more research talent locally and from all over the world, making Singapore perhaps the first R&D hub that congregates the best of research talent from diverse cultures and background.

Construction has commenced and completion is expected in 2011.

52 The Massachusetts Institute of Technology (MIT) has established the first research centre within CREATE called the Singapore-MIT Alliance for Research and Technology (SMART) Centre.

When fully established, the centre is anticipated to have 5 inter-disciplinary research groups (IRGs), with over 400 faculty, post-docs, students and other technical staff from Singapore, MIT and other overseas institutions.

Three IRGs, in the areas of infectious diseases, environmental sensing and modelling and biosystems and micro-mechanics, have started operations in temporary premises in NUS.

53 Other than research centres, CREATE will also house corporate labs.

The presence of corporate labs in CREATE would add to the vibrancy of research activities in CREATE.

#### PART FOUR - NEW INITIATIVES IN EDUCATION IN SINGAPORE

54 In the schools, we are working to create new initiatives and learning opportunities for our students.

There will be a sharpening of focus on the development of key learning skills for the 21<sup>st</sup> century, like confidence, the ability to work collaboratively across cultures, and learning how to learn.

We expect to invest more in nurturing such “soft skills” through co-curricular activities, aesthetics and sports.

55 Singapore is also looking to boost the relevance and value of vocational and polytechnic education to local industry, while enhancing its attractiveness to students.

56 Towards this objective, the Singapore Government will further expand existing upgrading pathways for ITE graduates to meet both their aspirations and the evolving needs of industry.

More ITE graduates will have the chance to progress to full-time polytechnic courses in the next few years.

To provide greater access to a diploma qualification for its graduates, ITE has also started offering targeted diploma programmes in collaboration with reputable international institutions.

These programmes such as Machine Technology and Automotive Engineering are aimed at industry's needs in specific areas which are not met by our polytechnics and more suited to the skills-oriented education offered by ITE.

57 Centres of Innovation (COIs) in selected areas of strategic importance to the economy are being set up in our polytechnics.

The COIs are a key platform for the polytechnics and local enterprises to engage in joint research, innovation and development activities in selected niche areas.

By building on the polytechnics' niche strengths, the COIs are beacons of excellence in the local R&D sector for industry.

To date, a total of four COIs have been established in the areas of Food Innovation Resource, Marine & Offshore Technology, Environment & Water Technology and Electronics.

Moving forward, the polytechnics expect to further deepen their links with relevant industries to boost local research and innovation efforts through the COIs.

58 Experience in the US and Europe has shown that a strong university sector can help grow new engines of growth for the economy.

As a small country, Singapore has succeeded by investing in its people.

As demands of the economy have grown, it is important that we invest in more capacity at our universities.

59 In August 2007, the Singapore Government committed to an increase in the proportion of a local primary one cohort that would eventually matriculate into our publicly-funded universities, from the then-target of 25% by 2010, to 30% by 2015.

60 With expansion, we had a unique opportunity to influence the shape and quality of graduate output in Singapore by developing more diverse models of university education.

61 This is why Singapore will be building a new university and setting up the Singapore Institute of Applied Technology.

I will speak briefly about these two initiatives.

62 The New University will partner the Massachusetts Institute of Technology (MIT) to introduce a new model of education to Singapore, focusing on an inter-disciplinary approach taught through unique pedagogy. MIT is a premier Science and Technology university that admits top students internationally and excels in both undergraduate teaching as well as research.

63 MIT's involvement in the New University will be deep and extensive.

A core team of experienced professors from MIT will play the lead role in developing and collaboratively offering the university's unique undergraduate curriculum.

New University students will benefit from being taught by and interacting with experienced MIT faculty members.

This is the first time that MIT has tied up with an overseas university to establish undergraduate programmes.

64 The focus for this New University with MIT will not only be on high quality teaching and research.

It must also bring benefits to Singapore by adding to our economic vibrancy.

Like MIT in the US, we hope to produce world-class scientists and entrepreneurs, along with innovations and new products.

65 Along with MIT, the New University will also work with a top Chinese university in a three-way partnership that will allow us to best learn from the East and West.

The New University will admit its first intake of students in 2011.

66 Singapore will also be setting up the Singapore Institute of Applied Technology or SIAT.

In the technical sector, faster technological turnover and more disruptive economic cycles mean that our polytechnic graduates have to continually upgrade and reinvent themselves.

In response to such trends, our polytechnics have formed collaborations with reputable foreign universities to provide their graduates with opportunities to obtain industry-relevant degrees in niche areas to complement the offerings of our autonomous universities.

67 In order to derive better synergies across the whole polytechnic sector, we have set up SIAT to lead, administer and manage all foreign university collaborations with the polytechnics.

SIAT will tie up with reputable, quality foreign university partners to offer degree programmes in identified sectors of growth in Singapore's economy in disciplines such as Engineering, Digital Animation and Health Science.

Other disciplines may be added later to meet economic and manpower needs.

SIAT will create a new peak of excellence in our higher education landscape.

It will help expand the range of upgrading opportunities available to students through degree programmes – most of which are obtainable within 2 years with a polytechnic diploma.

68 The new additions to the university landscape and continued support to the existing universities to develop into world-class institutions will provide more opportunities and quality choices for our students.

More importantly, it will enable us to drive Singapore's next phase of growth and transform Singapore into a knowledge and research hub- one that is attractive to foreign talent and companies alike.

#### PART FIVE - CONCLUDING REMARKS ON THE NEXUS BETWEEN EDUCATION AND ECONOMIC GROWTH

69 The global economy has evolved from one driven by agriculture, to manufacturing and now to one based on knowledge and innovation.

In a globalised knowledge economy, talent will be the key to economic success.

Talent will provide the intellectual and innovation capacity to sustain the technological edge and competitive advantage of a country.

Indeed, investments and economic growth will follow talent.

Global cities which are able to produce many skilled, well trained and motivated graduates are very attractive to companies who tend to locate and invest in places with a high concentration of talent.

These companies attract other talent which would bring in yet more investments thereby building up a virtuous cycle of economic growth.

This is the economic paradigm of the 21st Century.

70 In this global environment, education is intricately tied to the economic health of a nation.

In the complex economic system of today that is strongly characterised by knowledge, the education system has a truly important role to play.

71 As a small nation, Singapore is well aware of the significant challenges it faces to maintain its economic competitiveness in a globalised world.

We will therefore continue to seek to elevate our education system to the next level that will position it well to serve both the needs of our economy and the aspirations of our young people in the years to come.

72 I thank you for listening to me and for the opportunity to share with you the role that education has played and will continue to play as the driver of Singapore's economic growth.

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