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Author(s)	S. Gopinathan
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Educational Development in Singapore: Connecting the National, Regional and the Global

S. Gopinathan

T he title of this address is directly related to my academic concerns over two and a half decades, principally to understand Singapore's educational development within the context of a strong-developmentalist state (Castells, 1988) and to explain such development to both an immediate institutional audience (my initial teacher education students) and more broadly, Singaporeans. One reason why this topic is of more than personal interest at this point in time is, of course, the intense interest generated by the emergence of strong economies in East Asia and the role of education in that growth. The theme of this conference and the locale, Singapore, one of the tiger economies, makes the topic even more relevant.

Educating for Economic Growth

We need to remind ourselves that while first Japan, then South Korea, Taiwan, Hong Kong and Singapore made rapid economic progress by a strategy of export-led industrialisation and directive government policies, explanations for this phenomenon only really emerged in the late eighties (see Applebaum & Henderson 1992). While education was noted as an important factor, there was little elaboration of its character and little detailing of its links with state formation and economic development. The World Bank's analysis in *The East Asian Miracle: Economic Growth and Public Policy* published in 1993 redressed this somewhat and since then others have explored the theme. A sharper articulation emerged in the early nineties when, with the break up of the Soviet Union, the United States attempted to argue for a US-style democratic cum individual rights philosophy as necessary for developing countries. It was Singapore's leaders, notably Lee Kuan Yew, who argued the early response. He noted that East Asian socio-political arrangements with their strong emphasis on community, education and strong government had proved their worth in creating political stability, orderliness and

economic growth. Education's social purpose, from this perspective, is to promote cohesion and group solidarity, and its economic purpose, to create the wealth of its nation by the provision of appropriate knowledge and skills (Goh Keng Swee 1993).

I shall pay special attention to three major policy sets and the reasons offered for them. First, fragmentation along ethnic lines and a school system divided by four media of instruction necessitated a decision of how ethnic and language diversity in schooling was to be dealt with. Next, given the variety of ethical traditions, a short history and a desire to be distinctive, there was need to articulate a set of policies that schools could use for civics and values instruction. Thirdly, the government had to make decisions on the form and character of education to maximise education's contribution to economic growth.

Singapore: From Colony to Independence

As Singapore's school system is a creation of the state and as an institution embedded within society and open to its many influences, it is necessary to detail a little of Singapore's socio-political circumstances since the 1950s. It is important to remember that Singapore's colonial inheritance was a plural society with separate education systems accentuating divisions. When Malaya gained independence in 1957, Singapore remained a British colony. It was then argued that Singapore could not survive as an independent state and that it was vulnerable to communist subversion. A merger with Malaya was effected in 1963. In 1965, Singapore was ejected from Malaysia to an unwelcome and unprepared-for independence.

The period prior to and during merger had heightened ethnic tensions, led to race riots and induced a sense of vulnerability (Yeo & Lau 1991). Soon afterwards, the British announced a rapid rundown of their armed forces stationed in Singapore. A sense of crisis thus attended Singapore's birth and early years and was a major element in the shaping of political and economic policy. Chan (1971) described this period as necessitating the 'politics of survival'. Yet today, three decades on, Singapore is stable and secure, and a valuable member of ASEAN, APEC and AFTA with impressive economic credentials.

Shaping a New Education Policy

The education legacy of colonial rule was an underdeveloped system – an unequal system of schools with different media of instruction, inequities in funding, facilities, teacher preparation and conditions of service and different curricula and examinations. Colonial education policy in the last quarter of the nineteenth century was one of provision for schooling in the Malay medium, building a limited number of government English schools, and aid to church-initiated English medium schools. Following the 1911 revolution in China and the radicalisation of Chinese-medium schools, the colonial government sought, mostly unsuccessfully, to establish control over Chinese-medium schools by promising aid and insisting on the teaching of English. Chinese-educated graduates in the years prior to and soon after the War had little vocational opportunities in the English-dominated civil service and the large agency houses that controlled the economy (Gopinathan 1974, Wilson 1978).

The nature and objectives for schooling was thus a central issue in the debate over the nature of the Singapore society-to-be. British colonial policy had accentuated the divisions in the plural society; English had been advanced as a link language but, since access to it was limited, it served only to be yet another source of division. It was also a source of resentment for the Chinese-educated who saw education in Chinese as "national" and English-medium education as colonial and anti-national. Thus access to education and the possible roles for the colonial language, two issues that troubled post-colonial education systems in other countries, were also significant in Singapore. The essential principle that all political parties agreed to in the All Party Report on Chinese Education (1956) *was equality of treatment,* and this has been a cardinal feature in Singapore's educational policies since (Gopinathan 1974, 1985).

What is exceptional is the way Singapore handled the language issue. Though passions ran high over the language of instruction issue, the government committed itself to multilingualism, later bilingualism, in the school system. The government argued successfully for the need to accept English as a link language – a major economic resource for access to a source of capital, technology and markets, and

thus for making it a compulsory school language. This was in sharp contrast to views regarding the colonial languages – English in Malaysia, and Dutch in Indonesia. Indeed, although English is a foreign language, it has been taught as a first language in the schools from Primary One for the last twenty-five years; since 1965, every pupil has had to master two languages and language results are crucial for admission to the two universities. In general, Singaporeans have managed to cope with bilingualism well. Singapore, in accepting English, avoided the strident linguistic nationalism of other ex-colonial states, and acknowledged the need to be linked up to the global economic grid and to be useful to others.

Preserving Traditional Asian Values

If the English language was seen as a vital economic resource, the government also argued that as English had no roots in any of the indigenous cultures, it could not be a source of core values; the latter was to be the domain of the indigenous languages. Singapore must be one of the few countries whose language planners could confidently state that English's domain was the economic, that it was to be studied purely for utilitarian purposes, and that it was the indigenous languages that would provide the barrier against the undesirable, promiscuous, libertarian influences that a society literate only in English would be exposed to. This rejection of the cultural values of societies that valued individual rights and freedoms, it must be noted, was already being emphasised in the late 1960s (Gopinathan 1986).

The linking of language with culture, of notions of desirable and undesirable culture, springs from a view of culture as high tradition possessed uniquely by ethnic groups and encoded in the language. Such is the conviction with which this view is held that the state has decreed that students identified by ethnic group may only take the assigned ethnic language, that is, Mandarin is for the Chinese only. This is logical, given the state's view of the strong association of ethnicity with language. The consequence for the school system is that while there is inter-ethnic mixing in classes conducted in English and in other out-of-classroom activities, the second language classrooms are segregated classrooms.

A further extension of this policy has led to the creation of what are called Special Assistance Plan schools (SAP schools) which are exclusively attended at present by bright bilingual Chinese students. These schools are supported because of the belief that they had a special cultural ethos which needed preserving. In a speech in June 1996, the former Prime Minister Lee Kuan Yew said: "If we had an English-educated middle class to begin with in the 1960s – querulous, arguing, writing letters to the press, nitpicking, chattering away – we would have failed."(*The Sunday Times,* June 9, 1996).

In many speeches Lee has articulated his views on the nature and need for a strong and competent state. He locates support for strong government in the vernacular or mother tongue educated groups. In another speech he argued that, "the failure to preserve traditional values would lead to (Singaporeans) becoming completely deculturised and lost... (and thus) not a society or nation worth the building, let alone defending" (Lee Kuan Yew, 1972). There is a strong fear here of deracination, and of the need to build linguistic-cultural bulwarks. It has to be noted that these concerns surfaced in part as a reaction to the mid 1960s counter-cultural revolution in the West which Singapore's leaders saw as a portent of things to come if social discipline was not enforced. In the view of Mr S Rajaratnam, who has held positions in the cabinet as Minister for Culture, and for Foreign Affairs,"...if Third World societies are not to relapse into anarchy as development gathers pace, more and not less authority and discipline are necessary."(Rajaratnam, 1977).

Thus policies for inculcating values via schooling began early and since the early 1970s have had a strong cultural base – a culturalisation of education, if you will – to accompany the economic imperative that dictated much of education policy in Singapore. This was given a boost when books such as E. Vogel's *Japan as Number One: Lessons for America* sought to explain Japan's economic transformation in cultural terms, notably with regard to aspects of socio-economic characteristics and Confucian ethics. Given Singapore's Chinese majority, its concern for economic development and preference for strong government, and Confucianism provided, at first it seemed, an ideal ideological frame. It could enable a small ex-British colony to claim to be a part of a much older, wider, and now invigorated, cultural

area and provide the state, which had often argued for the continued social disciplining of society, with an ideology which could be said to be natural to the majority of the population.

The enthusiasm for Confucianism led the government to promote the teaching of Religious Knowledge in schools. In 1982, students were offered a choice of Bible Knowledge, Buddhist Studies, Hindu Studies, Islamic Religious Knowledge and later, Confucian Ethics and Sikh Studies. Some observers were alarmed that, in addition to the segregation of mother-tongue classrooms, a new religion-based segregation would further undo the common experience and participation that schools could be expected to provide. In 1988, a government-commissioned study of religious activism and practice concluded that such teaching had contributed to intensified ethnic-religious divisions. The religious knowledge curriculum was abandoned in 1990 (Gopinathan 1988, Tan 1994).

Partners In Education: Students, Teachers and Parents

It is probably more fruitful to examine the more substantive issue of the extent to which the school system in Singapore can be termed Asian, or if one prefers, non-western. Many have characterised Asian systems of schooling as being bookish, with a rigid common curriculum, frequent testing and students as shallow learners. The characterisation is true to a certain extent. But there is virtue in some of these vices. The major emphasis in Singapore, as in other East Asian states, early in the development cycle was on building up primary and secondary schools, not tertiary institutions; a second university was only established in Singapore in 1991. There were, therefore, sufficient schools to incorporate, and thus socialise, large numbers of young citizens.

The emphasis on early mastery of literacy, numeracy and science enabled a strong foundation to be laid in primary schools; a common curriculum was emphasised. This is important in Singapore, given the history of separate language schools. Pupils are streamed or tracked from Grade Five. There are three tracks at the secondary level. Thus within a common curriculum, differentiation on the basis of ability is very pronounced. There is an insistence on performance, which has

led to high and consistent effort being required of students. Regular homework emphasises the assumption that mastery and understanding of content is incremental in nature. It also forces upon parents the responsibility to ensure that schoolwork is done on a daily basis. It is very apparent in Singapore, for instance, through the great importance that parents place on academic achievement and the extraordinary lengths they go to ensure that their children do well. Though many have decried the emphasis on private tuition, parents provide this for their children because of the belief that it sharply increases prospects for educational success. Strong emphasis is also placed on headship preparation, and secondary schools and junior colleges face the annual discipline of a public ranking exercise which factors in the value added by the school. Teacher education is provided in a uniform manner and tends to emphasise the mastery of curriculum and pedagogic skills.

Assessments are frequent and are defended as being useful in indicating the levels of achievement expected of all, and strengthening achievement motivation. Some teachers, and many parents have complained about the pressures exerted by the all-important selection examinations. I would argue that society puts up with it because it is a tool of the meritocratic selection process. The talented poor, if they are successful, can and do obtain social mobility via the education system. It also helped that when the economy was expanding, students and families could see effort and school achievement paying off in the workplace; success in school could reasonably be expected to lead to success in life. Another consequence of this system is that there is also in place in Singapore, in the civil service and in the professions, a competent elite thrown up by this selection mechanism.

The essentially conservative pedagogy sketched above has enabled schools in Singapore both to perform well in international comparisons of academic achievement and to better educate the average learner than their counterparts elsewhere. All this was achieved with educational expenditure kept to below 4% of GNP and with no gender discrimination in access to education.

A Capital Investment

The issue of the relationship between education and its pay-off in terms of labour productivity in the workforce is as problematic as the values-education link in Singapore. In the 1960s, the People's Action Party (PAP) government sought actively to promote industrialisation, and expansion of educational opportunity was justified on that account. It is noteworthy that following conventional wisdom, efforts were then made to promote a vocational and technical education for weaker and average students, respectively. Dr Goh Keng Swee, who held positions as Deputy Prime Minister, Defence Minister, Finance Minister and Education Minister, argued that efforts to promote education in mathematics and science were crucial to Singapore's success in industrialisation. He noted that it was when those were tied to the operation of a free market that economic growth became possible (Goh, 1993).

Singapore's present Prime Minister, Goh Chok Tong, noted that few economists, in seeking to explain economic growth, placed sufficient emphasis on the value of good government, efficiency, prudent fiscal and macro-economic policies, and a developmentalist commitment to economic growth. An investment in schooling pays off in the economy, not just when human capital is increased by education and training, but in the context of its close coupling with emerging industrial needs, which a strong state is able to provide and when the market is allowed to allocate resources efficiently.

Economists have recently begun to argue that it is increases in total factor productivity (TFP) that better explains sustained economic growth. That implies, I believe, that the nature of a state's social arrangements, the industrial relations climate and capacity for macro economic policy making is influential, and a strong state with a high priority for development is better placed to deliver sustainable growth. The Singapore government oversees a strong alliance between labour and capital. In Singapore's case, these facts, not just the expansion of schooling, explain why it has recorded such economic growth when, in comparative terms, the levels of education in Singapore's workforce is low. In 1990, for instance, about 53% of the workforce had 6 years of education or less. In the 1960s and 1970s, vocational

and technical education were introduced to ensure better preparation for jobs in the economy. In the 1970s and 1980s it would seem this was sufficient, perhaps because in a mass production industrial economy, disciplined rather than highly educated workers are the key to productivity.

However, the recognition that the information-based industries of the future will require workers with higher levels of specialised training has led to greater investment in the engineering sciences. Singapore is actively planning to increase investment in R & D from the present 1.12% to 2% of GNP and university enrolment is skewed in favour of engineering and technology. Singapore's four polytechnics have courses that complement the industrial and service sectors. Already, Singapore's production of engineers, in proportion to its population, is nearly double that of Britain.

In spite of the intense effort invested in building a strong sense of the Singaporean self via the school system, Singapore and its education system are inevitably influenced by the global environment. English, as noted earlier, was retained because it was crucial for Singapore's economic plans. Singapore's best students are still sent to leading UK and US universities on scholarships. The Cambridge University Examinations syndicate continues to offer the 'O' and 'A' level examinations which all secondary students sit for.

In the last decade, the school effectiveness literature was closely studied for ideas and strategies. But before that, the reports of failings in the UK and US education systems had convinced policy makers that they were on the right track. In the mid-1980s, policy makers were influenced by the literature on decentralisation and choice in education. The *Towards Excellence in Education* report, which supported the establishment of independent schools in Singapore was written by a group of principals who went on a study tour of top schools in the UK and US. The views of Chubb and Moe (1990) were approvingly cited, and in the late 1980s, Singapore started an experiment with independent schools to provide greater autonomy for outstanding schools and principals. Also the Edusave Fund is intended to provide cash grants to students and schools to make school-level decisions on curriculum enrichment feasible. It was not only ideas from the West

that were studied. Ministry-sponsored teams went off to Taiwan, for instance, to study the teaching of values in the curriculum. Other teams, looking for new ideas in vocational and technical education, went to Germany and Scandinavia and, though no explicit policies were derived from Japan, its educational system and policies were clearly seen as a model worthy of emulation.

The 21st Century: The Road Ahead

It is changes in the global economic environment that is driving change once again in Singapore's school system. Singapore's immediate neighbours: Malaysia, Thailand, Indonesia and the Philippines, have adopted the same export-led industrialisation strategies and have begun to emphasise the increased teaching of English and use of technology in education. Global economic competitiveness, it is now recognised, cannot be assured by a model of schooling with a heavy emphasis on a common curriculum and mastery of content. The need to teach inquiry and lifelong learning skills has taken on greater urgency; this also ties in with the shift in economic strategy to knowledge-based industries and to the promotion of research and development.

Indeed, if there is to be an example of the effectiveness of social engineering, Singapore's education system must be it. And yet, as with technology, so too with social policy, one has always to contend with the law of unintended consequences. Singapore's economy is entering a mature phase and the nation is attempting to digest thirty years of massive social change. Singapore's education system is today facing new challenges, some of them a consequence of its successes.

Bright students are succeeding so well in the competition for grades that new examination challenges have to be devised. Parents spend large sums of money on private tuition, some beginning as early as age 3 or 4. The strength of a national identity among the young and core social values is being seriously challenged with increasing globalisation pressures. The government realises that, in a globalised economy, well educated and talented workers enjoy job mobility and can leave Singapore easily. Government leaders have begun to warn of the dangers of class stratification and access to quality education is an issue. Even as the government

moves cautiously to decentralise and corporatise, educated Singaporeans are demanding more democratization, more involvement and consultation. Attention to the nature of the learning process, in particular, the need to produce more innovative, creative and critical thinkers, is a sign of concern that content mastery alone is inadequate.

The Ministry of Education has introduced some major changes: curriculum content has been scaled back and greater attention is being given to the non-cognitive outcomes of schooling. There is a greater emphasis on critical and creative thinking and on the need for risk taking and innovation too. It has been recognised that there has been a tendency to specialise too early and more attention is being paid to broadening the curriculum. The government has provided ample funding for instructional technology aiming at a generous ratio of 1 computer to 2 pupils and a target of 30 per cent of curriculum to be delivered via IT. Initial teacher training and leadership training has been revamped to make teachers and principals more capable of being change agents. Greater autonomy has been given to principals with schools increasingly organised on a cluster basis. Teachers have been given an entitlement of one hundred hours of in-service training per year and more non-graduate teachers are to be offered the chance to read for a degree. Finally, additional funding has been provided by the Edusave Fund scheme, both to pupils and to schools, which has enabled them to more ably customise academic and enrichment programmes to meet their needs.

How adequate are these changes to meet the goal set by the Minister for Education to develop a system with "a much higher threshold for experimentation, innovation, uncertainty where output is not always guaranteed or even expected?" It is clear that a fundamental change in mindset will be required to bring about real change. Our legacy from over four decades of nation-building, is a strong omnipresent state with as yet limited space for a civil society to emerge; it will be hard to foster innovation and risk taking in a society that so cherishes stability and order. Our system of meritocratic selection has produced genuine social mobility and a highly competent technocratic elite, but the state's view of talent and capability is still very narrow, notwithstanding the desire to move the system towards an ability-driven curriculum. One must hope that the search for talent and ability does not

take us down the road of earlier, and more comprehensive, testing. A belief in promoting creativity, divergence, and a multiplicity of opportunities for diverse abilities and talents cannot co-exist with rigid and early estimations of ability. While competition between schools is no bad thing, the present ranking system distorts educational processes and will undermine the benefits of autonomy. Given our short history, it is vital that citizenship education as represented by National Education, succeeds. However, research in the implementation of values education shows that competition, perceived discrimination and lack of opportunity get in the way of students successfully imbibing values. National Education necessarily means that a common view of Singapore's history is to be internalised. Yet such history is, at least among some groups, contested. Will the schools have the freedom and the confidence to allow a questioning of official views of significant historical events?

Some commentators (Ashton and Green, 1996) have begun to speak of a Singapore model of education and skills training, its contributions to Singapore's economic growth and implications for policy in Western developed countries. Though many countries are reforming their educational systems, few, if any, have attempted anything so ambitious. Singapore's effort will be watched with close attention for this is a society that gets most things right.

Editor's Note: This is an edited and updated version of the Presidential Address to the joint conference of the Educational Research Association, and the Australia Association for Research in Education, S'pore, 1997.

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