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Educating For Creativity and Equality

EDUCATING FOR CREATIVITY AND EQUALITY: AN AGENDA FOR TRANSFORMATION

SINGAPORE DEMOCRATIC PARTY

Executive Summary

Singapore’s education system suffers from two major deficiencies. One, it is unable to educate a nation to meet the challenges of a 21st-century global economy which increasingly demands creativity and innovation among its players. Two, based on the philosophy of Lee Kuan Yew, our schools continue to steer state resources to disproportionately benefit the elite, thus widening inequality in Singapore.

The Singapore Democratic Party (SDP) presents this alternative policy paper to remedy these inadequacies and provide our nation with an education system that values our children and how they learn, not treat them like trophies to be won at international science and mathematics competitions. We want to kindle the young mind and lead her to discover her creative self, not just teach her how to do well in examinations. We also seek to level up society by providing our students equal opportunity to excel regardless of their family background.

We do this by starting with our young ones. Education doesn’t begin when a child enters primary school; it starts at maternity and early childhood. Presently, the government does not provide pre-school education at the national level. Parents are left to source such education for their children. This inevitability creates a chasm where the well-to-do can afford expensive programmes that provide enriched learning environments for their pre-schoolers while children from needy families have to stay home because their parents cannot afford to send them to kindergarten. The disparity starts early.

The primary school system exacerbates this gap by subjecting pupils to intense syllabi where teachers are under pressure to complete the topics regardless of whether the students understand the material or not. Parents then seek tuition for their children to keep up with the school work. Again, richer families are able to pay for such private tutoring which are not inexpensive while the poorer families cannot afford it and are, therefore, further disadvantaged.

In addition, students spend much of their weekends and school holidays completing their homework assignments and revision for examinations, leaving them little time for reading and recreation—two activities essential for lifelong learning.

To overcome these challenges, the SDP has drawn up a series of measures which include the following:

1. Cultivate creative minds. Primary and secondary school curricula will be revised to include activities that will cultivate creativity in our students. Teachers will be trained to build confidence in students, identify their strengths and passions, and facilitate the development of their creative skills.
Educating For Creativity and Equality

2. **Do away with the PSLE.** The focus of the primary school system is on the PSLE where students are trained to memorise their school work and drilled to do well in the examination. Scrapping it will allow teachers to teach and students to learn in a holistic manner.

3. **Broaden curriculum, reduce workload.** The number of subjects at the primary and secondary school level will be broadened to include student-collaboration projects, speech and drama, and humanities and the arts. The content of traditional subjects like mathematics and science will, however, be reduced. Such an approach will enrich the educational experience of our students and prepare them for a future that will require them to be well-rounded, intelligent individuals.

4. **Reduce class size.** Class sizes will be reduced so that one teacher will have a class of no more than 20 students. This will enable teachers to pay more personal attention to the development of the students.

5. **Introduce the Dedicated-Teacher System.** One teacher will be assigned to a class and he/she will take the set of students from Primary 1 to 3 before another teacher takes over from Primary 4 to 6. Giving a teacher three years (instead of only one) to teach a student, allows the teacher to acquire substantial knowledge about the student’s developmental progress. This allows the teacher more time to plan and implement her interventions. Such an arrangement will also provide opportunities for parents and teachers to collaborate and facilitate holistic development for the child.

6. **Scrap school and class ranking.** Schools will not segregate pupils according to their examination results. Education is not about competition with one’s classmates but learning through collaboration and teamwork with one’s peers. The competition for top-ranked schools is unhealthy and has inflicted serious psychological damage to our children.

7. **Nationalise pre-schools.** Pre-school in Singapore will be nationalised to ensure that Singaporean children from all walks of life have access to pre-school education. In this way, the poorer segments of society will not be disadvantaged just because they cannot afford sending their children to kindergartens.

At the tertiary level, our university system must also ensure that a student’s financial background will not be a deterrent in his education. As such, the SDP will introduce interest-free student loans for all undergraduates to help them pay their tuition and fees. Loan-repayment commences only when the graduate is gainfully employed.

For our universities to excel, this paper also proposes that our tertiary institutions are completely autonomous and free from state-interference; academic freedom must be sacrosanct. In addition, university leadership must be democratically elected by the faculty staff and not appointed by the government.

Any nation wanting to foster an inclusive society cannot ignore the situation of children with special needs. Although the government has put in place mechanisms to include children with disabilities in our regular schools, more needs to be done. Presently, Voluntary Welfare
Organisations (VWOs) still provide much of the education of special needs children. Under the SDP plan, the government will take over special education and centralise such services.

In 1994, SDP Secretary-General Chee Soon Juan asked in Dare To Change: An Alternative Vision for Singapore

...does the PAP have a clear idea of what education is, or should be, besides defining it in dollars and cents? Who is the Singaporean? What would we like to see in him or her? How should education serve the needs of Singapore? Why are Singaporeans not reading as much as their counterparts in other countries?...As long as we fail to address these issues, we will be caught in a cyclical pattern of making patchy revisions to our educational system that will lead us nowhere.

Twenty years have passed and the education system has failed to evolve in a way that enables our society to meet the challenges that loom. Observers at the US Embassy in Singapore noted that

Singapore’s education system has been criticized for being heavy on memorization and light on critical thinking and creativity. Based on the British model, the system is highly test-focused and separates students (a process referred to as “streaming”) at an early age between high, middle, and low achievers...the overall education system has changed little.

Education must be the process where an individual learns to discover oneself and, in doing so, endeavour to improve the human condition. For the sake of our nation’s future, it is important that we teach our children that reading and learning can be enjoyable and intrinsically rewarding. We must let our children be children. They should be encouraged to read, play, discover themselves and for themselves, and develop a love for books. The goal should be to lead our students to learn, not push them to study. The former will open up their naturally enquiring minds, the latter will kill off curiosity.

The objective of our education system must be to facilitate the learning process with the ultimate aim of helping our children achieve their true potential and reach their own levels of self-actualisation. If we are able to achieve this, we will reap the benefits of not just a talented workforce but also, and more importantly, a thinking and caring people.
Singapore has become more affluent over the years. This has, in no small measure, been due to the government’s efforts to upgrade the people’s educational status. With literacy rate among youths at more than 99 percent and over 95 percent for the entire population, the country has one of the highest levels of education in Asia. The emphasis on education in Singapore is heavy if only because the country does not possess natural resources other than its citizens. Indeed, the government tells us that the education system’s aim is to

...provide students with greater choice to meet their different interests and ways of learning. Being able to choose what and how they learn will encourage them to take greater ownership of their learning.

We are also giving our students a more broad-based education to ensure their all-round or holistic development, in and out of the classroom. These approaches in education will allow us to nurture our young with the different skills that they need for the future. We seek to help every child find his own talents, and grow and emerge from school confident of his abilities. We will encourage them to follow their passions, and promote a diversity of talents among them—in academic fields, and in sports and the arts.

We want to nurture young Singaporeans who ask questions and look for answers, and who are willing to think in new ways, solve new problems and create new opportunities for the future...

The above composition, found in the Contact magazine published by the Ministry of Education (MOE), is a wise collection of words, skilfully put together to describe the perfect school system. Accompanied by colourful photographs of smiling students and cartoon-like graphics, the picture painted of the education system is one of well-adjusted and happy students who enjoy learning. School seems even fun.

Unfortunately, and perhaps unsurprisingly, the reality is somewhat different. As this paper will show, the education system in Singapore is mainly content-driven in which students are regularly tested and scored so that they can be categorised into strong, medium or weak performers. The strong ones are ushered into enhanced
programmes where they are given every opportunity to succeed while the weaker ones are left to seek private tuition—if they can afford it.

**Are we ready?**

How does such an approach sit with the future? Globally, the accumulation and application of knowledge has accelerated over the past several years due to the advancement of science and technology. It has altered the way we communicate and, as a result, impacted upon education systems, rendering certain modes of teaching obsolete. Without doubt, the speed with which the information age is evolving has resulted in a future which has never been less predictable. Educating our children for the future has thus become a real challenge and educationalists are grappling with the necessity of developing a new pedagogy.

Yet, in Singapore there is little public discussion on whether the present education system serves our future needs. While acquiring basic literacy and numeracy skills was sufficient in our nation’s formative years, changes in global conditions and technology bring new challenges and, therefore, demand new approaches. No longer can we merely be good at absorbing information or copying it, we need to generate new knowledge so that we can stay at the cutting edge of innovation and research. The size of our country and limited resources necessitates us to stay ahead of the learning curve. For this, we must be vigilant in how we educate our future generations.

Also, as our society matures the citizenry aspires to higher forms of well-being. Values such as compassion, graciousness, empathy, etc. become more important as we look to fulfill beyond our basic needs of food, shelter and safety.

The government, perhaps unwittingly, has conceded that its education policy has not been able to achieve the desired results of equipping the people with enough talent and knowledge to ensure the survival of the economy. Instead, Singapore has had to rely on foreign talent to create jobs and keep the economy viable. Lee Kuan Yew said that “without [foreigners], the jobs will not be there to begin with.” Prime Minister Lee Hsien Loong added, “Without the foreign workers, we would not have attracted [investments].” This is despite the uninterrupted half-a-century that the People’s Action Party (PAP) has had to educate the populace.

Not only are Singaporeans unable to generate jobs for our own people, local talent is leaving the country in alarming numbers. Lee Kuan Yew pointed out that about 1,000 people are leaving the city-state for other countries every year and the number is growing. He added that “every year, there are more people going abroad for their first or second degree” and these people make up the
top 4 or 5 percent of skilled Singaporeans that our economy needs. (Lee Hsien Loong said, with no hint of irony, that what Singapore needed was “far-sighted leadership who can anticipate problems, plot a safe path through the dangers and find new ways to maximise our opportunities.”)

Why are Singaporean businesses unable to generate jobs for our own people and why are the locals leaving the country in such great numbers? Is our education system sophisticated enough to handle such changes and equip our people with skills and competencies that will ready them for a changed—and changing—global economy? Will it satisfy the evolving psycho-social needs and moral development of our community? Are the kinds of citizens that our schools groom preparing us for life or just the next examination? In other words, are we ready for the future?

In this paper, the SDP examines the various issues and challenges that confront our education system, highlights areas of deficiency and, most importantly, proposes remedies. It challenges us as a people to think deeper about the society we aspire to and the place in this world we want to occupy. It offers Singapore an alternative to the current outmoded education system put in place by the PAP.

Like most of everything else in Singapore, the foundation of our education system had the
imprimatur of our first prime minister Lee Kuan Yew. Unfortunately, Lee held the view that
hereditary determined intelligence and those in this group must be given priority when allocating
state resources. In 1967, he said that every society has approximately five percent of the population:

who are more than ordinarily endowed physically and mentally and in whom we must
extend our limited and slender resources in order that they will provide that yeast, that
ferment, that catalyst in our society which alone will ensure that Singapore shall maintain
its pre-eminent place in the societies that exist in South and South-east Asia.¹

He repeated his ideas in 1969, this time more forcefully:

Free education and subsidised housing lead to a situation where the less economically
productive people in the community are reproducing themselves at rates higher than the
rest. This will increase the total population of less productive people. Our problem is how
to devise a system of disincentives, so that the irresponsible, the social delinquents, do not
believe that all they have to do is to produce their children and the government then owes
them and their children sufficient food, medicine, housing, education and jobs...We must
encourage those who earn less than $200 per month and cannot afford to nurture and
educate many children never to have more than two. We will regret the time lost if we do
not now take the first tentative steps towards correcting a trend which can leave our society
with a large number of the physically, intellectually and culturally anaemic.²

This culminated in a policy that the PAP government introduced where intelligent women, defined
as university graduates, would be incentivized to have more children while non-graduates (and,
therefore, “stupid” women in Lee’s mind) would be penalised if they had more than two children.
Lee summed his views on the matter in his 1983 National Day Rally speech:

If you don’t include your women graduates in your breeding pool and leave them on the
shelf, you would end up a more stupid society...So what happens? There will be less bright
people to support dumb people in the next generation. That’s a problem.³

As recently as 2008, Lee re-stated his position at the Singapore Human Capital Summit:

You marry a non-graduate, then you will worry about whether your son or daughter is
going to make it to university. You marry another graduate, especially if she gets a first or
an upper second and if you get a first or upper second. Chances are you don’t have to
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worry about them. They will look after themselves. So that leads to the kind of problems that Britain has. The British believe that all men are equal but in fact they are not equal. You take cows, dogs, horses, whatever it is, or even papaya trees. You start out with the best seeds. Such is life. I said this once at a mass rally and it caused great unhappiness.⁴

According to Lee, parents who are intelligent will produce intelligent children. Therefore, if they choose not to have children or to have less of them, the gene pool will be diluted and subsequent generations of the population will gradually become less intelligent.

This outlook is problematic in two respects. One, scientific evidence does not bear out such a conclusion. Two, there is more to the fact that poor families often produce children who underachieve in school than merely “dumb” genes being passed on from parent to child. Despite this, Lee’s government set out to establish a system that groomed “intelligent” citizens and allocated resources that favoured the elite which has resulted in today’s elitist culture in our education system.

Products of the present system

The MOE has spelt out a list of qualities that it would like to see in our citizens after they go through the education process, calling it Desired Outcomes of Education (DOE). The DOE states that an individual who is schooled in our education system will be:

- A confident person who has a strong sense of right and wrong, is adaptable and resilient, knows himself, is discerning in judgement, thinks independently and critically, and communicates effectively;
- A self-directed learner who takes responsibility for his own learning, who questions, reflects and perseveres in the pursuit of learning;
- An active contributor who is able to work effectively in teams, exercises initiative, takes calculated risks, is innovative and strives for excellence; and
- A concerned citizen who is rooted to Singapore, has a strong civic consciousness, is informed, and takes an active role in bettering the lives of others around him.⁵

These outcomes are laudable. Unfortunately and ironically, it is the current educational approach and practices that will prevent the attainment of such outcomes. The current school system as well as the authoritarian style of political governance do not facilitate the development of an independent, questioning mind. They do not lend themselves to the fostering of creativity and innovation, much less cultivate the attitude of self-directed and life-long learning.

For example, the school system in Singapore focuses almost exclusively on year-end examination performance. The curriculum content is also extremely heavy. The combination of these two factors
compel teachers to race to complete the syllabi in the course of the academic year—regardless of the extent of the students’ comprehension of the material. Such an arrangement negates the role of our educators: teachers no longer teach, they become simply the conduit for facts and figures.

As a result, parents engage private tutors to help their children cope with the workload. The system has effectively passed on the role of teaching to parents and tutors. Eric Wood who was an associate professor at the National Institute of Education (NIE) in Singapore where he was given the responsibility of training secondary school teachers, observed that

If a child is not doing well in math it is not assumed to be a problem of the teacher, the school or the curriculum; rather, it is assumed to be a problem for the student and his or her parents to resolve. They may do this by hiring a tutor—tutoring is a huge business in Singapore with many teachers tutoring for a living rather than teaching in a school.6

The tuition industry in Singapore has grown into a billion-dollar one. The richer parents pay for expensive enrichment classes so that their children can excel in the examinations and enter elite secondary schools. Such a system maintains class division where the rich and well-connected command a distinct advantage over the poorer segments of society. It has little to do with smart or stupid genes.

For society as a whole, an education system that produces students who excel in test-taking does not prepare us for the modern era, much less achieve the ideals stated in the DOE. In this day, ideas and creativity are prized over the ability to memorise—a task which computers are much better at handling. Our students, at least the top ones, may rank amongst the world’s best at international science and mathematics competitions but, overall, we fare badly when it comes to innovation and independent thinking. In the global economy, innovation is what will allow to progress. On this score, Wood further notes:

...there is absolutely no credible evidence that rankings in these kinds of tests have any correlation with workplace productivity or competitiveness in the marketplace. They do correlate strongly with students’ success in further math courses—and that is something that is very important to parents in Singapore.7

And because of the inability to think out of the box, managers are not able to inspire their workers. A recent survey showed that Singaporean workers are the unhappiest and least motivated in Asia. The reasons our workers cited for their unhappiness were an unsuitable corporate culture, difficult bosses and working harder for less.8 Such a finding is not a recent phenomenon. Another study conducted in 2004 by the Chicago-based International Survey Research found that among the countries of the Association of Southeast Asian Nations (ASEAN), Singapore’s employees rated their bosses the least favourably in terms of leadership skills.9
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Not only is such lack of motivation a negative impact on labour productivity, it is a stark reminder of our education system’s failure to produce the kind of managers and workers that we need in a knowledge-driven economy. Everything about the present school system, from the emphasis on rote-learning to the high quantity of material to the elitist model woefully under-serves our students and makes the goals stated in the DOE unattainable.

The PAP education policy is a massive effort to teach students what to think, not how to think. Professor Roger Schank, director of the Institute of Learning Sciences in Northwestern University, summed up the matter when he said to Singapore’s educators: “You don’t have a great education [system]. Your sense of a well-educated man is someone who has memorised all the facts.”10 Our goal must be to produce well-educated, not just well-drilled, students.

Education must remain a process where an individual learns to discover oneself and, in doing so, endeavour to improve the human condition. For our future, it is important that we teach our children that reading and learning can be enjoyable and intrinsically rewarding. Who is the educated Singaporean? What qualities would we like to see in her? How should education serve the needs of Singapore over and beyond economic considerations? Why are Singaporeans not reading as much as their counterparts in other countries? These are not esoteric questions, they are fundamental issues that are essential in the formulation of sound educational policies. As long as we fail to understand and address such issues, we will be caught in a cyclical pattern of making patchy revisions to our education system that will lead us nowhere.
We need to reform our educational system so that our students’ minds are invigorated to learn, not just memorise. This will make them make better and more productive workers when they graduate.

But it is not good enough to educate our children just so that we can produce a talented workforce. Education must not be reduced to a tool to merely serve the economy. Instead, it must be the process which nurtures an enquiring mind and enables one to interpret one’s surroundings in novel ways. It must stimulate one’s desire to learn both in school as well as throughout one’s life. The objective of our education system must, therefore, be to facilitate the learning process with the ultimate aim of helping our students achieve their true potential and reach their own levels of self-actualisation. If we are able to achieve this, we will reap the benefits of not just a talented workforce but, more importantly, a thinking and caring people.

To do this, we must define ‘education’ and lay out what the process of educating a citizen entails. In its broadest sense, education is distinct from schooling, or formal education. Schooling can produce very competent and even highly skilled workers. However, these individuals can still be inculcated with values that adhere to a system of unquestioning obedience in which diligence, perseverance, and orderliness are prized behavioural traits. Even academics in authoritarian systems who are utterly proficient in their areas of research can be socialised to become more obedient to the state than to exercise independent thought. Such a system inevitably produces workers who may perform competently when society is well organised and structured but who will, when spontaneity and creativity is of the essence, find it difficult to exercise an independent and unfettered mind. In such a situation, the dearth of entrepreneurs results in a loss of economic competitiveness.

As pointed out, Singapore’s education system, as it is, emphasises rote learning and grades students almost entirely on their performance on year-end examinations. This has produced a workforce that has been adequately schooled but woefully under-educated to meet the needs of rapidly changing economic conditions. Rather than stream students at an early age and train them for specific industries and vocations, an education system would be more effective in equipping them with learning skills that will allow them to build new concepts and generate new ideas. The government
has belatedly realised that relying on regurgitation of textbook material deprives society of entrepreneurial minds, resulting in the school curricula being revamped to teach students the importance of independent and analytical thinking. However, its attempts at remediation of the problem are too little, too late.

Also exercising critical thought cannot be confined to the classroom; learning to think critically must extend into the working world. For more than half-a-century, however, Singapore’s political system has discouraged freedom of expression. Participation in the political process is conducted through government-approved channels such as the local media, feedback units, and residents’ committees. This has stunted an entire population’s ability to think independently and led to a populace that is at ease with conformity. If Singapore is to reap the benefits of an informed and intelligent populace, we must therefore not only overhaul our education system but also open up the political society.

The DOE should remain as the objective of our education system with one addition: That a citizen educated in Singapore should also possess qualities of empathy and compassion, and have the courage to defend such virtues. This includes being imbued with an abiding sense of respect and love for diversity, having a strong moral compass and treating others as one would want to be treated.

In essence, the contrast between the SDP’s and PAP’s philosophies towards education is that while the latter sees our students as vessels with which to fill facts and data, the SDP views our youths as possessing naturally enquiring minds to be kindled. The PAP prepares our children for the economy, we want to prepare them for life’s journey.

**Education—the Great Leveller**

The present system is also one that favours the rich. The SDP sees education as the Great Leveller, the ultimate tool to dismantle the rigid and unfair elitist system; education can, and must, provide equal opportunity for the poor to compete and rise.
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The PAP espouses the concept of meritocracy as a pillar of its governing philosophy. In its essence, meritocracy has its etymology in Ancient Greece; it ascribes power to individuals based on merit. Merit, as it is commonly understood, is a quality or characteristic deserving of reward, however that quality or characteristic is defined. Meritocracy is, in its ideal form, impervious to bias and prejudice (except, of course, to the quality being assessed).

In Singapore, the PAP has identified and practices academic excellence as the quality that deserves reward—money, prestige, political power and so on. In so doing, the authority that dispenses such reward cannot be accused of favouring any characteristic within a populace (such as race or religion) save for those that enhance academic performance. Those who excel academically will be identified and groomed for leadership roles. They are best placed to run the society and help it prosper.

There are two problems with such an outlook. First, it is untrue that academic high-achievers (and by this we mean those who perform well within the traditional school system—a definition we will adopt throughout this paper) make the best leaders in society. There are different types of intelligence which help an individual achieve certain types of excellence but not others (see Chapter 3). For example, some people are good at test-taking and will score very good marks at examinations but cannot communicate their ideas in an effective manner. It becomes painfully obvious that a meritocratic system predicated on rewarding only good exam-results is unwise. While the concept of meritocracy has much to be argued for, the characteristics and traits that ought to be merited must be more finely calibrated.

Second, for meritocracy to be truly meritocratic, the system must enable fair competition. As a society progresses, socio-economic stratification sets in. The upper strata will seek to pass on their power and privilege as meritocracy has rewarded them to their offspring, relatives and friends who may or may not deserve the merit. They are apt to favour a system that ensures that society’s reward will tend to be accrued to those closest to them.

This can happen in at least three ways: The first is, as pointed out earlier, our heavy dependence on expensive private tuition. Students from poor family backgrounds who are unable to afford such extra-classroom help are often disadvantaged when it comes to preparation for examinations. As a consequence, they perform less well and are placed in lower-ranked streams. Technician Yong Kee Say’s children, whose results just hover around the passing mark, are in this category. Yong says in Mandarin: “It’s terrible, you know. I have no one to turn to. Who can help them? And I cannot afford to send them for tuition.” His wife, who suffers from diabetes, does not work and the couple can barely speak or understand English. Upon graduation, employment opportunities are much more limited for students from poorer families and the types of jobs are almost always the lower-paid ones. This vicious cycle puts those already at a disadvantage further down the totem pole. Family background is a major determinant in an individual’s educational attainment especially in our current educational system. Academic failure and school drop-out rates rise dramatically among needy families. This creates a culture of poverty which often lends itself to criminal behaviour. Offences such as drug abuse, borrowing from loan-sharks, inability to pay fines, etc. arise from...
poverty.

Also, many of our elite schools, which are better endowed and therefore have more resources, are located in wealthier residential districts, making it more difficult for lower-income families to register their children in such schools. While nearly 90 percent of Singaporeans live in HDB flats, only 40 percent of students attend top-ranking, elite primary schools. In addition, these schools are assigned “intellectually gifted” students in the Gifted Education Programme (GEP) and receive more teachers as well as an additional annual grant of $53 per pupil. While 80 percent of all primary school students reside in HDB flats, among the Secondary 1 students who are enrolled in Integrated Programme (IP), that is, GEP students in primary schools, only about half live in HDB flats.

Of course, the government denies elite schools get better treatment. PM Lee said: “I believe we can make every school a good school and we have done a lot of that to ensure that every school provides a good education for the students.” This view was challenged by Pushparani Nadarajah, a vice-principal from Jurong West Secondary School: “How many of our leaders and top officers who say that every school is a good school put their children in ordinary schools near their home? (Only) until they actually do so are parents going to buy (it).” Nadarajah’s comment was met with applause from the audience made up of teachers and educators attending the AsiaEducationExpo (AEX) 2013.

As one might expect, income status not only affects entry into primary and secondary schools but also into universities. Table 1 below shows that students from the lower-income groups (indicated by those living in smaller HDB flats) are less likely to get into local universities. The trend is reversed as we move up the socio-economic ladder: The percentage of students living in 5-room and Executive HDB flats and private housing estates entering universities increases.

<table>
<thead>
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<th>Housing Type</th>
<th>% of SC/PR from the 1990-1992 P1 Cohorts</th>
<th>% of SC/PR University Students from the 1990-1992 P1 Cohorts</th>
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<td>1,2,3-room HDB flat</td>
<td>23</td>
<td>13</td>
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<td>4-room HDB flat</td>
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<td>31</td>
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<td>5-room &amp; Exec HDB flat</td>
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<td>36</td>
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<tr>
<td>Private housing</td>
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<td>19</td>
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*Percentages may not sum to 100 due to rounding errors.

Table 1: Housing-type Distribution of the 1990-1992 SC/PR P1 Cohorts
(Source: Ministry of Education)

Third, apart from getting private tuition and enrolling in elite schools, children from affluent households are provided a stable home, good health and nutrition, home computers, holidays, extracurricular activities, and cultural enrichment. These are likely to provide a more conducive environment to motivate the child to achieve. Such opportunities are largely not available to those in lower-income groups.

A *Straits Times* report showed that richer parents are willing to pay in excess of $20,000 a year for their children to attend top private kindergartens in preparation for primary school whereas poorer children skip pre-school altogether because their parents can’t afford it. The physical and mental well-being of a child is equally important. A poor mother with poor nutrition is likely to give birth to a baby of low birth weight and this could affect the child’s learning abilities in later years.
Children with poor nutrition are less alert, curious, and less able to interact. (This subject is further discussed in Chapter 4).

Another problem with the practice of meritocracy is whether reward is given for type or effort. Researcher Donald Low makes this distinction that very often meritocratic systems reward type (who an individual is, the connections he has or even the race she belongs to) rather than actual achievement. Low writes that “it appears to me that the meritocracy practised in Singapore—especially in our education system—is one which rewards type more so than effort. That is, our meritocratic system seems to reward people who possess the ‘right’ attributes.”

In line with the SDP’s philosophy cultivating an egalitarian society, it is imperative that we base our governance on a truly meritocratic system, one where the definition of academic excellence is not restricted to good test-taking ability. We often overlook the compromised ability of students from poorer families to compete in school. To remedy the problem, the system must recognise the unique qualities of each child—aptitude, interests, rate of development, etc. Further, it must be designed to facilitate the maximum development of every student’s strengths. Factors such as the location of schools, awards of scholarships, assessment of classroom performance, and so on, must be re-examined if we are to develop a first rate education system. These topics and their recommendations will be presented in greater detail in later chapters.

Income inequality—and therefore social and political inequality—in Singapore is wide. There are economic measures that we can take, such as redistributive policies in the form of minimum wage and budget increases in welfare programmes, to ameliorate the problem. Nothing, however, is as potent and as sustainable as an education system which allows all citizens, starting at pre-school age, the opportunity to perform to the best of their abilities. To apply the analogy of a 100-metre race: All the competitors will run at different speeds and hit the tape at different times, but all must start at the same starting point. Education is the one tool that society can use to get everyone to begin the race at the same starting point, it is the best weapon that society can wield in its fight against discrimination, inequality and poverty.

A good school system is also a school system that builds equality. The Organisation for Economic Cooperation and Development (OECD), for instance, found that the highest performing education systems across OECD countries are those that combine quality with equity. Equity in education means that personal or social circumstances such as gender, ethnic origin or family background, are not obstacles to achieving educational potential (fairness) and that that all individuals reach at least a basic minimum level of skills (inclusion). In these education systems, the vast majority of students have the opportunity to attain high level skills, regardless of their own personal and socio-economic circumstances.11

Specifically, Finland’s education system, one of the most well-regarded in the world, stands out as one of the most egalitarian in the world. Indeed, Finns are proud that their system makes explicit commitment to achieving equality among schools: All schools are accorded the same prestige (there
are no elite schools), students are not streamed according to examination performance and classes are not ranked. And yet, the Finnish students have been performing extremely well when compared to students across the world. According to the Programme for International Student Assessment (PISA), a survey conducted by the OECD that assesses the skills and knowledge of 15-year-old students in more than 70 economies worldwide, Finnish students have consistently come out on top on near the top. In 2012, Finland scored just as well in Reading and Science subjects compared to Singapore.¹²

![Figure 1: PISA comparison of Finland and Singapore in Mathematics, Reading and Science](Source: OECD)

The difference is that Finland does not have to subject its students to the crippling curricula that Singaporean students are put through and Finnish students don’t rely on expensive private tuition to achieve their results. When it comes to equality, the PISA survey found that the difference in mathematics performance between advantaged and disadvantaged students is much wider in Singapore than it is in Finland as indicated in Figure 2.¹³

![Figure 2: Differences in mathematics performance between students from advantaged and disadvantaged backgrounds](Source: OECD website)
The SDP believes that a good education system must do two things: One, it must embrace individual differences in ability and talent. Such an attitude and approach enables as many people as possible to achieve their fullest potentials and aspirations. Two, education must act as society’s Great Leveller. To this end, our education system must be overhauled to effect such meaningful change. This paper lays out the blueprint to achieve our vision of a modern and enlightened education system.
CHAPTER 3

ISSUES AND CHALLENGES

Childhood development

There are three main aspects of a child’s development—physical, intellectual, and socio-emotional. These processes do not develop independently of each other. Instead, the development, or failure of development, of one area affects the other two. For example, a child who is obese (physical development) may lead her to having problems with her schoolmates (social-emotional development) to such an extent that it affects her academic performance (cognitive development).

In Singapore, heavy emphasis is placed on cognitive development to the detriment of the other two. It is important to remember that a child develops as a person—not as a brilliant scientist or an Olympic athlete or an entertainer. Our school system must be designed with no less than a well-balanced, holistic programme that takes care of all three aspects of a student’s development. The higher one advances on the physical, socio-emotional, and cognitive developmental scale the more well-adjusted, confident, and secure one is. Individuals who strive for maximum development and self-actualisation possess the following characteristics:

- They have a healthy and realistic image of themselves.
- They are creative and spontaneous in their actions.
- They are determined and resourceful when confronted with problems.
- They are able to establish and maintain meaningful relationships with others.
- They are concerned with the welfare of society.
- They think independently and are able to resist peer pressure.
- They perceive reality efficiently.
- They have a good sense of humour.

Physical development. Students’ basic needs, such as good nutrition and secure home environment, must be met. Unfortunately, such needs are often compromised for those from lower-income households. Such deficiencies can be overcome by reducing income inequality and poverty in Singapore. The SDP proposes measures such as minimum wage and retrenchment insurance to ensure that the lower rungs of the socio-economic ladder are not left behind. Increase funding for welfare programmes will ensure that needy students are provided assistance to start school healthily. These initiatives are discussed in detail in our paper on the economy. School lunches will be provided for students to ensure that their dietary and nutritional needs are met. Facilities for play and
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physical exercise will be upgraded for all schools in Singapore to enhance the development of physically healthy schoolchildren.

**Socio-emotional development.** If Singapore is to achieve the DOE, we must not neglect students’ psychological needs. For children to experience an environment that makes them feel secure, competent, and highly motivated, schools must be staffed by appropriate professionals who can minister to the psychological needs of the pupils especially those who experience an unstable home environment. Opportunities must be made available for parents to learn about providing effective care for their children’s social-emotional needs (see section below). Teachers must be trained to ensure that they are equipped to provide their students the necessary psychological support. School curricular must be provide students with skills that will help them adjust competently to changing environments and needs.

**Cognitive development.** Almost every aspect of behaviour—speaking, playing, moving, thinking, eating, sleeping, and so on—can be traced to the brain. Neuropsychology is the term used to describe the study of the brain as it relates to behaviour and the neuropsychological development of our younger students must be understood so that we can maximise their developmental potential. Understanding neuropsychological functions will help in the cognitive development of students.

A human brain is almost fully developed by the time he or she is born. Within two months after birth, practically no more new brain cells, called neurons, are formed. These cells then gradually grow in size during which the brain is differentiated into many parts. What is of most concern is the part that forms a thin layer of cells covering the brain called the cerebral cortex. It is in the cerebral cortex that much of human behaviour, such a thinking, planning, problem solving, creative thinking and personality is found. These behaviours are often known as neuropsychological functions, and they are responsible for a child’s cognitive and social development.

Research shows that, unlike the physical cells of the brain, neuropsychological functions continue to develop right through until the mid-teens. But even though neuropsychological functions are based in the brain, environmental factors and experiences that a child encounters can, and do, determine the quality and efficiency of the functions. In other words, the quality of instruction and interaction that a child receives in school, affects his or her neuropsychological functions which, as mentioned, are responsible for intellectual and social behaviour. The main areas and functions of the cerebral cortex are:

1. The frontal lobe. The front part of the cerebral cortex, called the frontal lobe, is involved with the process of sifting out irrelevant information, and enabling an individual to focus on the immediate task. This function is not well-developed in children between the ages of three and six. This is why younger children tend to get easily distracted and cannot focus their attention for long.
2. The parietal lobe. Towards the side of the brain is the parietal lobe where the functions of sensation and movement are coordinated. Again, in younger children of three and under, these functions are less well-developed but improve with time. This is why activities for children in this age group focuses on facilitating large, gross motor movements. As the brain develops, activities shift gradually towards smaller and finer movements.

3. The occipital lobe. Towards the back of the brain is where the function for vision is located. This is called the occipital lobe. When visual information is transmitted through the eyes, this part of the brain is responsible for putting the information together and making sense of the image. This ability in children is not quite as sophisticated as in adult. That is why younger children prefer to read books with big, colourful, and uncomplicated pictures. As they get older, children become more adept at reading finer text. The occipital and parietal lobes are also responsible for the coordination of eye-hand skills. Competent functioning of these skills does not take place until about six years into the child’s life.

4. The temporal lobe. At about the level of the ear is the temporal lobe which is, among other things, responsible for understanding speech. This function seems to develop earlier than the function responsible for speech production.

One of the most frequently asked questions about development is: Is hereditary or environment responsible for a child’s intelligence level and developmental progress? If it is hereditary, and a child does not have the potential to excel in life, why do we bother trying to provide a stimulating environment? On the other hand, if intelligence can be enhanced through the environment, does it mean that every child raised in the right environment will be outstandingly intelligent, creative, and hard-working? No one has been able to determine which is more important. Asking the question is like asking which hand makes a louder noise when they clap. Rather than an either-or situation,
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Genetics and environmental learning interact together in complex ways to shape a child’s behaviour. Children may inherit certain characteristics from their parents, but if a conducive environment is not present, these characteristics may not develop.

Motivating or bribing?

Behaviour modification has been studied for a long time by psychologists. Its applications and benefits have been widespread. Some people maintain that behaviour modification, or the alteration of one’s actions through a system of reward and punishment, is the basis for people achieving certain goals. That is, most people do certain things (study, work, play) because of rewards, and they don’t do certain things (steal, fight, cheat) because of the fear of punishment. In fact, many people study and work because they fear being punished if they don’t. These people are motivated by external circumstances. This is called extrinsic motivation. There is another category of people, however, who do things because they enjoy doing them, not because there is a reward to attract them or a punishment to fear if they don’t. They derive their motivation from within themselves. This is called intrinsic motivation.

Does motivation, extrinsic or intrinsic, affect a child’s ability for high achievement? The simple answer is yes, and in many ways. Researchers have found that intrinsic motivation encourages higher achievement while extrinsic motivation does not. In other words, people who are motivated by high-paying jobs and other external rewards achieve less than people who enjoy their work and who are more concerned about the quality of their work. An interesting finding emerged from an experiment which studied the drawing behaviour of children. In a class, some of the children were given certificates as a reward for drawing. It was subsequently observed that the children who were rewarded with certificates were less likely to draw than children who were not rewarded. In another study, two groups of children were taught not to litter and to clean up their surroundings. One group was told over a number of days that they should be neat and tidy. The other group was told for the same number of days that they were neat and tidy. The first group of children who were made to feel that they should behave in a certain manner (extrinsically motivated) cleaned up their environment less than the second group of children who were told—and who began to believe—that they were neat persons (intrinsically motivated).

Experts question the efficacy of rewards at producing lasting changes in attitudes or even behavior. When the rewards stop, people usually return to the way they acted before the program began. Researchers Edward Deci (who pioneered the study of intrinsic versus extrinsic motivation), Richard Koestner and Richard Ryan reiterated this point and suggest that

...rather than focusing on rewards for motivating students’ learning, it is important to focus more on how to facilitate on intrinsic motivation, for example, by beginning from the
students’ perspective to develop more interesting learning activities, to provide more choice, and to ensure that tasks are optimally challenging.\(^3\)

Because of its heavy emphasis on grades obtained from tests and examinations, the current education system in Singapore falls short on producing individuals who are motivated and seek learning outside of the classroom.

Not only is the PAP depending on reward and punishment as a basis to motivate students in our schools, it is broadening the practice in the hope of developing strong character in our youths. In 2012, the Minister for Education Heng Swee Keat announced that a new Edusave Character Award will be given to students who demonstrate good values.\(^4\) The award is given to “recognise students for demonstrating exemplary character and outstanding personal qualities through their behaviour and actions.”\(^5\) These awards, ranging from $200 to $500 depending on the students’ level, are handed out to 2 percent of the total number of students in each school at the end of each year.

It runs counter to logic that in order to help our children develop strong character—which includes being internally motivated to enhance the well-being of our fellow men and women—that we should be rewarding them with cash. What happens when the reward stops? Does it mean then that they do not have to continue to demonstrate “exemplary character”? Such a strategy leads the student to ask “What is it that our teachers want to see, and how much money do I get for demonstrating it?” It does not help him to ask, “What kind of person do I want to be?”

Educationist Alfie Kohn sums up the effects of trying to cultivate good values in children with material reward:

> Studies over many years have found that behaviour modification programs are rarely successful at producing lasting changes in attitudes or even behaviour. When the rewards stop, people usually return to the way they acted before the program began. More disturbingly, researchers have recently discovered that children whose parents make frequent use of rewards tend to be less generous than their peers.\(^6\)

Whilst, it is recognised that a child’s developmental process necessitates the application of both extrinsic and intrinsic forms of motivation, we must be vigilant that we are not over-reliant, as it is with the current system, on extrinsic factors to educate our children.

**Intelligence—what kind?**

It is probably accurate to say that educators, at one time or another, have wondered about the level of intelligence of their students. Are they intelligent enough? How will their level of intelligence affect their performance in school? What can be done to increase this intelligence? All these
questions presuppose that we know what intelligence is. Do we know what makes up an intelligent person? Do we even agree on what intelligence is? For instance, which of the following people are more intelligent?

- The school drop-out who eventually became a millionaire businessman.
- The high IQ student who finally ended up in prison for delinquent behaviour.
- The farmer whose four children are all studying at Harvard University.
- The Nobel Prize winner who was killed in a car accident while driving drunk.
- The world renowned musician who handled his finances so poorly that he was always in debt.
- The country’s most sought-after lawyer who was arrested for cheating his clients out of their money.

Different people have different answers to these paradoxes because intelligence means different things to different people. Differences in how we define intelligence often translate into very different outcomes in real life. A classic experiment illustrates this point. A group of rats were trained to run down a runway of a T-shaped maze. At the end of the runway, the rat had to decide whether to turn left or right. The right arm would always contain food whereas the left arm had nothing. After several tries, two groups of rats emerged. The first group learned the task very quickly, that is, it took them only a few tries to figure out that the right arm of the maze contained food. These rats were labelled as bright rats. The second group which took a much longer time to figure out the tasks were called dull rats. Obviously, the bright rats were more intelligent than the dull ones. Or were they? In a subsequent experiment, the rats were put to a different task. This time the rats were thrown into a tank full of water and had to figure out a way to escape via a latched door. The results showed that the bright rats were not necessarily more intelligent. In fact, many of the bright rats could not figure out the escape mechanism and drowned whereas many of the so called dull rats did well.

Just like how we interpret intelligence in rats, many of us make the same mistake of equating intelligence with school performance. To be sure, this is only one type of intelligence which is normally known as componential intelligence. Componential intelligence is what we often associate with being ‘book-smart’ or ‘exam-smart’. Students who demonstrate strong componential intelligence may not perform well in other types of tasks, for example, ones that require them to apply what they have learnt from their past experience to solve problems. In other words, they may not possess high experiential intelligence, a trait that is useful in, say, conducting research. There are yet other students who may find it difficult to function effectively when contextual intelligence (being ‘street-smart’) is required, for example, when engaging in business.
In Singapore, much resource and prestige is showered upon students who perform well in examinations. These often come in the form of scholarships. Such scholars are groomed to assume leadership positions in the future. These individuals’ componential intelligence are beyond question. However, as with much of everything else in life, componential intelligence plays but only a part of the real world. This subject is discussed in greater detail in Chapter 6.

The most obvious example of an individual who does not demonstrate strong componential intelligence but is extremely well-endowed with experiential intelligence is Steve Jobs, founder of Apple Computers. Jobs did not excel in school and would not have been identified and groomed in Singapore as a leader. And yet, he was one of the world’s foremost thinkers and leaders who impacted the lives of billions of people around the world.

It is clear that a parochially conceived measurement of intelligence works against the identification and nurturing of talent. Singapore will benefit from an education system that is less narrow with present definition of intelligence.

**Killing creativity**

It is without a doubt that creativity is the most sought after skill in present times and its demand will only increase with time. Such a development is especially important for countries without natural resources like Singapore. To be sure, creativity abounds in the world but, unfortunately, little of it is taking place in our society. Singapore’s viability as an economy depends on how creative we are and how well we can compete on the international stage of ideas. We are losing out in this aspect of development and the longer we take to change, the further we will be left behind.

Education plays a singularly pivotal role in determining how creative we are. Given the current system in Singapore emphasising almost exclusively the importance of test-taking and regurgitation of facts—and where our students are conditioned to conform in thought and behaviour rather than to independently express themselves—it is hardly any surprise that Singapore cannot produce an entrepreneurial sector of any significance. Clearly, there is an urgent need for an overhaul of our education system if we are to remain relevant in the global economy.

But before we tackle the subject of how we can stimulate creative thinking in our schools, we must understand what creativity is. Creativity is not a trait borne only in artists, poets and novelists. Creativity can be expressed in a range of disciplines: mathematics, science, computer technology, business, economics and so on. Psychologists point out that creativity exists in all of us.

Creativity is also not the manifestation of a sudden flash of brilliant insight; it is the result of an
extensive process of trial and error and collaboration with one’s peers. Educationalist Sir Ken Robinson explains that creativity comes from our imagination, a cognitive activity which we all engage in. Imagination is part of human consciousness that enables us to revisit the past, escape from the present, and think of scenarios that have not (yet) taken place. Creativity is the process when we act on our imagination and attempt to re-create these thoughts in the real world. If we put these creative thoughts on paper, be they in a story or painting or blueprint to build a machine, we have embarked on the process of innovation, an endeavour which may lead to the manufacture of a product or service.\(^7\)

The problem is that education systems educate children out of their creativity. After years of training students to think a certain way with all the memorisation and application of rules, students conform to a type of thinking that marginalises alternative (creative) ways of solving problems. Compounding this problem is the outlook that the more rules, formulae, and facts that a student can read and retain, the more intelligent she is. A curriculum that crams such information into young minds necessarily excludes the time required for students to exercise their innate ability to imagine and translate that imagination into creative thought processes.

It should be clear by now that the creative process requires an environment that is tolerant of people being wrong and making mistakes. Making mistakes is an integral part of learning and exercising one’s creative skills. A system that constantly punishes error and rewards correct answers conditions the mind to become averse to making mistakes and, therefore, to avoid trying new ways of looking at a problem. For example, a teacher punishes her students by making them sit on the floor if they incorrectly answer a question. Such an approach discourages students from thinking through questions and offering answers because of the fear of punishment. A society that frowns upon mistakes also blunts the creative impulses of its members.

The system of reward and punishment in the education system in Singapore is so well-developed that students are terrified at failing in their examinations. The fear of failure among students is intense; a survey found that one in three children between the ages of 9 to 12 say that life is not worth living because of this fear.\(^8\) Another survey asked American, Japanese and Singaporean students what their greatest fear was. While a majority of the American and Japanese children said that losing a friend or the death of their parents was their number one fear, Singaporean students said that not achieving good grades was what they were most afraid of.\(^9\) It was also reported that nearly 20,000 Singaporean students consult psychiatrists because of their fear of classroom examinations. Two-thirds of them are in primary and pre-school grades.\(^10\) It is tragic that our schools exert so much pressure and instils such a strong fear of failure in our schools. Parents are very much affected by the unhealthy race for a spot in a good school. Gillian Fong is a parent who admits that she pushes her children towards doing well in the PSLE. She recalls the stress that daughter went through when she sat for the examination. “It was terrible. I pushed her so hard—tuition classes for all subjects and also insisted that she get into the school’s bowling team—so that she’d be guaranteed a spot in a good school,” Fong said. By the time her daughter was done, she suffered a breakdown and ran a high fever. “I regretted it so much,
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but I couldn’t help it because I just had to be certain she’d do well,” Fong lamented. Parents are also sending their children to consult psychologists to find out why their children are having problems coping in school.

In addition, by putting our students through major examinations at the end of 6 years of primary school education and 4 years of secondary school education (and at regular intervals in post-secondary education), we facilitate the development of rigid and repetitive behaviour of practising past test papers and producing ‘model’ answers.

The fear of failure and the emphasis on repeated testing of students work to the detriment of the creative process. The high content in the school syllabi also ensures that students have no time to engage in recreation, an important element in stimulating the imaginative process. Students are often made to stay behind after school hours so that teachers can ‘cover’ the topics and chapters. This is done independent of the students’ understanding of, let alone mastering, the material. As a result, parents resort to engaging private tutors to help their children cope. This adds to the burden of the students, depriving them of even more time and opportunity to engage in recreational and creative activity.

This is, of course, not an argument against structured classroom instruction and assessment. But by requiring students to remember large amounts of material and testing them on how well they can regurgitate the information, we are making it impossible for students to hone their creative skills.

In order to reverse the harmful effects on creativity in our present system, a new pedagogy must be designed to encourage our students to think and behave creatively. This topic will be presented in detail in a subsequent chapter.

Finally, creativity cannot just be encouraged in schools. Society at large must be tolerant of individuals who don’t conform to conventional behaviour because it is the non-conformists that ultimately bring about change. As cited above, leaders of the entrepreneurial world like Steve Jobs are often defiant of convention. Jobs was a maverick, a hippie in his younger days and a rebel of sorts who founded the hi-tech behemoth that is Apple. Indeed, Apple’s motto is: Think Different. A commercial that the company produced called The Crazy Ones showed pictures of famous persons who, in their time, were labelled as troublemakers and rebels: Mahatma Gandhi, John Lennon, Martin Luther King, Jr, etc. The text of the commercial went like this:

*Here’s to The Crazy Ones, the Rebels, the Troublemakers*
*The ones who see things differently*
*While some may see them as The Crazy Ones, we see genius*
*Because the people who are crazy enough to think that they can change the world Are the ones who do*
At this juncture, it is important to make clear that while the SDP is concerned about the dependence of our education system on subject matter, examination-taking, and rote-learning, we are mindful of the need for discipline and the internalising of rules in the learning and mastery of content even as we strive to foster creativity and independent thinking in our students. To be sure, it is not discipline and strong leadership that stifles creativity, but the arbitrary and unaccountable use of power by the government, that hinders spontaneity and critical thought in the people.

The fear of failure instilled in our students is carried with them into the adult working world. Such a fearful attitude is reinforced by the political culture. Decades of authoritarian control where dissent is swiftly punished with detention without trial, criminal prosecution, or civil lawsuits, has had a pernicious effect on critical thinking in Singaporeans. The regimented lifestyle has focused the minds of Singaporeans to doing what the government prescribes rather than what they critically assess is right and wrong. Julian Persaud, an executive at Google, remarked that

It is worth wondering where Singapore’s fear of failure comes from. I think you get a good idea when you ask: What is the opposite of failure here? It is not success. It is obeying rules and sticking to a plan. So long as you are doing either of those things, nothing can go wrong for you. Many panellists said they felt that when it came to creative ideas, permission was still somehow needed—from investors, from the Government, from elders.13

Such rigidity of the socio-political environment has caused many Singaporeans to emigrate. One of them is Moe Alkaff, a television personality who worked at the state-run broadcasting company. “The education system is pretty stiff here [Singapore],” Alkaff said, “it has created great people but is there enough creativity?”14

Our school system is designed to produce the mandarin-scholar, the quintessential technocrat who is supremely efficient and productive at the tasks he or she is assigned but who is risk-averse and less adept at thinking creatively. Unfortunately, simultaneously cultivating technocratic and entrepreneurial attitudes in a person is a task which is, at best, difficult.

Singaporean entrepreneur Sim Wong Hoo who founded Creative Technologies, a successful corporation that produces sound cards for computers, described the No U-Turn Syndrome (NUTS) in Singapore. The term NUTS describes the traffic rule in Singapore where drivers are not allowed to make a U-turn unless a sign specifically allows them to do so. The reverse is true in some other countries: drivers may make U-turns unless a ‘No U-turn’ specifically prohibits them from doing so. The situation is analogous to the political scenario where state permission is needed for almost everything that Singaporeans do. Such socio-political control by the government is a significant barrier to the development of an innovative and entrepreneurial society.

Such autocratic control even extends to institutions of higher-learning. The government recently persuaded Yale University to jointly set up a campus in Singapore with the National University of Singapore (NUS). Unfortunately, the rules laid down by the campus administration forbids its students from staging protests and forming political parties or associations affiliated with political
organisations. These restrictions were put in place despite the Yale-NUS College being set up as a liberal arts college. Such a practice is clear demonstration that the government is more concerned about political control than providing cutting edge education and stimulating the creativity in our students. Indeed, Steve Wozniak (co-founder of Apple with Steve Jobs) remarked that Singapore could not produce a company like Apple because the system here has destroys “creative elements” that give rise to innovative companies like Apple.15

Many companies are in search for creative talent. Businesses are increasingly look for employees who are adept at thinking out of the box, have good teamwork skills and can collaborate with others to work out solutions. This is why universities which emphasise on content more than creative skills are becoming degree mills that churn out graduates who are not in demand. Professor Yong Zhao of Michigan State University writes that a survey of US multinational companies operating in China found that 37 percent of these companies reported that finding talent was their biggest operational problem.16 Zhao cited another study which found that 44 percent of Chinese businesses said that the dearth of talent was the biggest barrier to their expansion. These studies concluded that an education system that emphasised test-taking and book knowledge was the biggest factor that limited the development of creative talent.

A school system that prizes conformity and shuns a culture that encourages dissenting views and opinions will produce students unable to cope with the world unfolding and changing before them. Authoritarian systems, by their nature, are intolerant of criticism and dissenting views. Unfortunately, it is disagreement and dissent that are necessary for creative destruction without which economies are prevented from reinvigorating themselves. The opening up of our political system is therefore as important as encouraging the development of creative behaviour in our schools—one without the other is not going to help Singapore transform our economy into an innovative one.

**Educating educators**

Educators, which includes teachers as well as parents, make up the most important people in shaping the educational experiences of our children. How teachers interact with their students determine whether or not a healthy learning attitude is planted in young minds. Parental attitudes also play a major role in helping to shape the outcomes of education. Therefore teachers, parents and guardians who are uninformed about the cognitive, socio-emotional, and physical development in children, and how they impact academic performance cannot facilitate holistic development in our children.

It is important that teachers undergo rigorous training to equip them with the skills needed to facilitate the optimal development in their students. Their job is not simply to unload coursework on their students but to facilitate active learning and problem-solving. The ultimate goal of teacher
training is to provide teachers with enough time and expertise to comprehensively handle the educational needs of their students, thereby rendering private tuition unnecessary.

To do this, the syllabi must be scaled down and school hours lengthened so that teachers have more time to interact with their students and observe their development. Class size should also be reduced to enhance the quality of teacher-student interaction. These and other initiatives will be presented in a later chapter.

Parents also play a crucial role by fostering a learning environment at home. It is unfortunate that many parents think that their teaching roles end when their children go to school. They forget that they are not only primary care-givers but also primary educators who play a crucial role in helping to keep the natural curiosity in their children alive. Parents must also be provided the opportunity to learn about childhood development as well as skills that will maximise such development. Courses should be designed and conducted for parents with school-going children to give them the basic education on how to bring out the best in their children.

In addition, policies regarding parental, maternity and paternity leave should be reviewed. Parents have to adjust to the arrival of a newborn in addition to having to cope with the demands of the baby. Having to take on full responsibilities at work while undergoing this adjustment period creates greater stress and drains parents emotionally and physically. A sufficient period of paid parental leave will allow mothers and fathers the necessary time to build their family and to provide enough nurture for the newborn. Such care goes a long way in ensuring that the family and child receive the best environment for optimal development. Paid maternal leave in Singapore is currently limited to three months and paternal leave is only one week. This will have to be adjusted upwards to allow parents to spend more time with their newborns.
We often think of the education of a person as starting at Primary 1 when, in fact, education, in its most comprehensive sense, begins right after birth. The development of young children often determines the social and emotional skills they pick up which greatly impact on their relationships with other people and which, in turn, affect their coping mechanisms and learning abilities. It is, therefore, crucial that we pay greater attention to early childhood education and provide Singaporean children maximum opportunities to develop in the best possible manner.

By this, we do not mean that we start drilling our pre-schoolers with counting and spelling. Rather early childhood education entails providing an environment that will allow our children to develop in a holistic way where they are emotionally secure, physically capable, socially adept, intellectually keen, and morally well-grounded. If children are able to master their environment during the foundation years, they will be better equipped when they enter the formal education system to pick up crucial learning and life skills—skills that will affect their subsequent development. On this matter, educationalists at Harvard University’s Center On the Developing Child state that

When viewed as an important part of a child’s environment of relationships, early childhood education must strive to involve young children in reciprocal learning interactions with teachers and peers rather than isolated “pre-academic” work, and it should capitalize on children’s natural interests and intrinsic drive to learn, rather than follow an adult-determined agenda. Stated simply, young children learn best in an interactive, relational mode rather than through an education model that focuses on rote instruction.1

In this regard, it is disappointing that the PAP does not pay greater attention to pre-school education. A study conducted by the Economist Intelligence Unit (EIU) in 2012 on the quality of early childhood education ranked Singapore 29th out of 45 countries across the globe. Known as the Starting Well Index, three main factors, namely, availability, affordability and quality, were used to rank early education in the countries.2 Singapore scored poorly on quality, coming in at 30th position out of 45, but
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fared slightly better in affordability (21st) and availability (25th). Singapore’s low-ranking in the Index is, perhaps, not surprising as quality of early childhood education is dependent on factors such as student-teacher ratio, the wages of preschool teachers, their qualifications and training, and the extent of their professional recognition. Our education system pays scant regard to these conditions which not only lowers Singapore’s ranking in the Starting Well Index but also affects the morale and the high turnover of pre-school teachers.

**Early education—the crucial years**

And yet, early childhood education, especially in the Singapore context, is extremely important. This is because primary schools expect a high standard of literacy and numeracy skills in their students even during the first year of school. Currently, the main providers of pre-school education are the private play-schools and kindergartens. Children are also taught by parents and other childcare centres. The government does not provide pre-school education at the national level. As a result, the quality and standards of kindergartens vary widely. Many of the centres are expensive and cater to the richer segments of society, leaving out children from the low-income groups.

The consequence is that there is a stark difference in cognitive and socio-emotional development as well as in linguistic and motor abilities between young children in the various social classes. Furthermore, English is the main language of instruction in school for which children from poorer backgrounds is often a second language. Not only do these students struggle with English, they also have to deal with mathematics which require a significant proficiency in the English language even at the Primary 1 level.

As highlighted in an earlier chapter, one of the most important objectives of an education system is the provision of an equitable system that enables children, especially those from poor families, to begin their educational process at the same starting line with their peers. Research shows that reading skills and the ability in mathematics and science are more reliable predictors of economic and social well-being later in life than the number of years spent in school or in post-formal education. PISA results show a wide variation of performance results depending on the country in question even though students in the participating countries all attend school for the same number of years. It is, therefore, the quality of classroom instruction, not the length of students’ school attendance, that determines their performance level. Putting a student through x number of years in school and conferring a certificate on her at the end of the period is not an indication of the quality of education she has received. Our education system must ensure that our students not only leave school with a school-leaving certificate but also equipped with skills that will help them excel in whatever they choose to do in life.
To do this, children must be prepared for school in an equitable manner. If a child starts off poorly in early education and is already behind her peers when she reaches Primary 1, she will find it hard to catch up in a system such as Singapore’s which is designed to sieve out the strong students from poor ones from a young age. In other words, how well a child is prepared before he enters primary school is a key factor in determining how well he will ultimately achieve in school.

As highlighted in Chapter 2, the social background of students in Singapore plays a significant part in determining the performance in mathematics. On the other hand, the Nordic countries such as Finland, Sweden and Norway rank top three in the Starting Well Index. The Scandinavians place great emphasis on equality in society and see education as an important tool to achieve that ideal. As pointed out, women in these countries have quality maternity-care centres to provide excellent healthcare for expectant mothers. Parents in these countries can also depend on day-care centres and pre-schools to look after their pre-schoolers. These centres have well-trained professional staff and well-developed facilities to ensure excellent early childhood education and socialization. As a result, young children from various social backgrounds enter the formal school setting on equal footing.

In Singapore, income inequality, which is one of the highest among OECD countries, means that resources available to lower-income families for pre-school education as well as proper healthcare is vastly different from those in the upper-income groups. This includes pre-birth healthcare for the expecting mother. A poor mother with poor nutrition is likely to give birth to a baby of low birth weight and this could affect the baby’s learning abilities in later years. In school, children with poor nutrition are less alert, curious and less able to interact. It is for this reason that inequality of childhood development exists. It remains a fact that the rich and those who can afford it are more likely to be able to provide their children with better pre-school education than the low-income families. They can make up for the absence of proper early education and get that head-start in life for their children, a difference which will be compounded in the formal school setting.

The lack of a state-funded early childhood education programme is the starting point of an education system that perpetuates class division in Singapore. As pointed out in Chapter 2, statistics show that a much lower percentage of children from the lower-income groups are enrolled in the elite schools and it is the students from elite schools that stand a higher chance of getting into the universities. Such a system is short-sighted and a waste of human resource as society stands to lose the talent and potential contributions of a significant segment of citizens through the inadequacy of early childhood education. In addition, there is the danger of ignoring a poor pre-school education system while blaming parents for ‘poor parenting’. Children from poor families are also often labelled as problem students who are not interested in academic studies and there cannot be taught. They are ultimately consigned as slow learners and placed in weaker streams destined for lower-paying jobs when they graduate. When they have children of their own, the cycle repeats itself and perpetuates the underclass in Singapore.

It is, therefore, imperative that early childhood education be given more attention by the state so that children’s foundational skills in reading and communication are evenly matched when they
enter primary school. Unless the government takes the development of children seriously and considers it a priority, the gap between the elite and disadvantages will persist, even widen.

**More than just reading and writing**

The aim of early education is not to bring forward the teaching of reading and writing in young children. Instead, it is to stimulate a child’s interests and curiosity, and kindle her awareness of the environment. The focus in pre-school education must be on providing a stimulating environment that would arouse children into exploring the world around them, not engage in pre-academic learning. In this sense, programmes must be able to cater to each individual child rather than employ standard curriculum moulds to ensure that children fit in and conform. There should not be labels to identify and sort out young learners.

To this end, care-givers and early childhood educators must not play a secondary role in our education system. They must be highly trained professionals who occupy a respected position in society because they provide high quality programmes for children under their care. In the case of families where parents do not have the time to provide a meaningful relationship with their children, the teacher becomes the major relationship provider. According to Harvard’s National Scientific Council on the Developing Child: “Children who develop warm, positive relationships with their kindergarten teachers are more excited about learning, more positive about coming to school, more self-confident and achieve more in the classroom.”

Another objective of pre-schools is building self-confidence and encouraging self-expression in children. Children in the more privileged classes are more likely to be exposed to enriched environments. They are more likely to have greater access to books, computers and other learning materials as well as enjoy more stimulating recreational activities. Pre-schools and day-care centres must replicate such environments to equalise the early educational experiences of children.

Research shows that rats reared in enriched and stimulating environments demonstrate better learning abilities than those raised in impoverished environments. Examining the brains of these rats, neuroscientists find that the neurons are more developed (for example, more synaptic connections). Although caution must be exercised in drawing inferences from animal studies to human development, there is a wide body of literature that show that children exposed to enriched environments (exposure to music, games, reading, and physical exercise) are beneficial to development.

A child’s development and early education should not be completely left in the hands of schools and kindergartens. Parents are still the main providers of their children’s early education. The MOE
should provide courses for parents to pick up skills that would facilitate optimal social and psychological development of their children. Such skills would complement the programme that pre-schools and kindergartens provide for young children. Childcare leave should be legislated to enable parents to attend such courses.

The alternative

Students today need to be taught critical thinking and to be flexible and adaptable. By the time a child finishes his pre-school, he should be self-confident, inquisitive, have good social skills and develop a liking for school. According to child developmentalist Jean Piaget, who created a theory of cognitive development, the period between ages two and six (called the pre-operational stage) is a period when a child learns to use language. During this stage, children do not yet understand concrete logic and cannot manipulate mental information. Nonetheless, they are not just passively absorbing the information they receive but also actively trying to make sense of it. Stimulation is, therefore, very important at this stage of human development. To this end, Harvard’s National Scientific Council on the Developing Child recommends that the early childhood education include the following:

- All early childhood programs must balance their focus on cognition and literary skills with significant attention paid to emotional and social development.
- The science of early emotional and social development must be incorporated into services in support of parents.
- Providers of early care and education must have sufficient knowledge and skills to help children who present with early emotional problems early on, particularly those who exhibit significant aggression or difficulties with attention and ‘hyperactivity’.
- Expertise in early identification, assessment and clinical treatment must be incorporated into existing intervention programmes.
- Suspected abuse or neglect must be investigated.

Introduce state-run pre-schools

In order that early childhood education meet the above objectives, the SDP’s education programme will introduce pre-school centres run by MOE. These schools will be accessible to all children, especially those who cannot afford the more expensive pre-school classes, and will adhere to the following guidelines:

1. Pre-school caregivers are well-trained and highly qualified professionals.
2. Class sizes are small to ensure optimal caregiver-child interaction.
3. The school environment must conducive to the effective emotional, social and psychological development of the children.
4. The programmes do not emphasise on academic work and grades, but encourage
5. The children are introduced to a wide variety of experiences that would stimulate their curious nature.
6. Programmes and facilities, both indoor and outdoor, must cater for the children’s physical development and development of their motor skills.
7. Curricula must include the children’s social development and staff must be trained to detect early behavioural and social problems.
8. Centres be equipped to provide optimal cognitive development including enrichment programmes such as music and drama, and art and craft.

To achieve centres of excellence for early childhood education, officials and educators must be well-versed with appropriate educational values that guide the process of human development:

1. Worth and dignity of every individual. Every child must be respected and must grow up with dignity, imbued with a strong sense of self-worth. He should be allowed to develop his interests and potential fully, starting from pre-school education.
2. Faith in the ability to make decisions. A child should be encouraged to make decisions and learn from them in order that she will grow up with a strong sense of social responsibility.
3. Learning to share responsibilities. Human development must include the recognition that individual desires and the needs of society must be balanced. Such balance is the essence of democracy where the majority view must prevail without the rights of the minority and individual rights being trampled.
4. Spiritual and moral values. The pursuit of material well-being must be balanced by the inculcation of values such as social responsibility, civic-mindedness, respect for diversity, and compassion. Educational institutions have a role to play in imparting such values together with parents, religious organisations and the community at large. Education of our children on values must extend beyond early childhood into primary, secondary and tertiary education.
5. Encouraging physical and emotional health. Physical and emotional health of pupils are often secondary considerations compared to academic training. Without sound development of the body and mind, cognitive development will be mediocre at best.
6. Teachers must be free to teach. Caregivers are often loaded with administrative duties to the extent that their responsibilities as teachers are relegated to incidental roles. The system must recognise that care-giving and administrative duties are distinct and separate, the latter must not dominate the former.

Under the SDP programme, pre-schools will follow through with the primary school teachers the children they have taken care of. They will communicate with primary school teachers the strengths and weaknesses of the pupils so that the school can continue to help with the developmental processes.

Upgrade teachers’ skills

Since 2009 the government has introduced two new measures in an attempt to improve the quality of pre-school education in Singapore. It raised the minimum academic qualifications of pre-school teachers (see Table 2 below).
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Minimum Qualification | Current | CAT A - New Teachers (for all levels, from January 2009) | Existing Teachers (from January 2013)
--- | --- | --- | ---
Academic | ≥ 3 O-Level credits, including EL | ≥ 5 O-Level credits, including EL | ≥ 3 O-Level credits, including EL
Professional | Certificate in Pre-School Teaching | Diploma in Pre-School Teaching | Diploma in Pre-School Teaching

Table 2: MOE’s new requirements for pre-school teachers as of 2009
(Source: Ministry of Education)

Raising the minimum qualifications does not necessarily mean better pre-school teachers. Early childhood education is an important field which requires trained and accredited professionals. At the minimum, early childhood educators should be trained in the National Institute of Education (NIE) with degree holders having extensive education and training in the field. Presently, many of those in our kindergartens and day-care centres are not trained, despite the MOE’s stipulated minimum requirements, and they do not possess the necessary qualifications of educators in the area. As a result, the quality of early childhood education in Singapore leaves much to be desired.

The SDP programme would require strict quality assurance and accreditation guidelines for private pre-school centres. Such a framework will allow pre-school providers to benchmark their education outcomes and standards through a combination of self-appraisal and external assessment. Pre-school providers that meet specified standards may then apply to receive accreditation status. These private-run centres can operate in parallel to the MOE-run pre-schools. In addition, early childhood educators will be trained to:

1. Collaborate with educationists and researchers to provide information on how to continuously shape classroom practices to achieve the desired results.
2. Design assessments that are based on observations of children, not their test scores.
3. Ensure that these assessments are used for pedagogical improvements.
4. Eliminate labelling and ranking children based on the assessments results.

Organise parenting courses and conferences

As mentioned, parents play a primary role in early childhood development. It is crucial that young parents of pre-school aged children are equipped with information and training on how best to provide a home environment that will enhance the development of their child. The SDP’s plan will include courses run by the early education centres to teach parents:

- the importance of parental involvement in their children’s developmental process,
- the importance of holistic development in children,
- the importance of a stable, loving and respectful home environment,
- the importance of reading and how to encourage it in their children,
- the value their children’s opinions and how to encourage them to express themselves through speech and in writing,
- how to arouse their children’s curiosity and not drill their children to acquire academic skills,
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• how to turn everyday activities to learning opportunities,
• how to create enriched environments by providing space and time for play,
• and how to identify potential learning problems and other undesirable behaviours of their children.

In addition, the schools and centres will help parents to network among themselves and support each other through regular parent meetings and programmes. Such groups will be encouraged to discuss existing education policies and methods so that feedback can be provided to the MOE for evaluation and consideration. The MOE will also organise annual conferences for parents on the issue of public education.

Enhance maternity and poor-family care

A child’s development starts at birth, not when she enters school. As such, the SDP proposes the establishment of the National Centre for Maternal and Child Health, staffed with psychologists, social workers, and maternal care specialists to help new parents provide their newborn with the necessary skills and environment to facilitate optimal development. The Centre will also look into helping dysfunctional families and vulnerable children with early intervention.

The child’s as well as the mother’s nutrition and general health should also be taken care of. To this end, the economic situation of families in the low-income groups should be looked into. The introduction of minimum wage legislation as well as retrenchment insurance policy, proposed by the SDP, will go a long way to remedy the disadvantages that poorer families face. The fundamental solutions are to reduce income inequality, give the poor a decent income, make healthcare affordable and provide good early childhood education for needy families. These measures will be presented in greater detail in our forthcoming policy paper on the economy. Job placement programmes for unemployed parents who are expecting a baby must be given urgent attention. Without support, the physical, mental and social well-being of children from poorer backgrounds are threatened and they will not perform on par when they enter the school system.

Conclusion

It is said that a chain is only as strong as its weakest link. As we strive to build a strong nation with citizens who are physically, mentally, and morally sound, early childhood educational remains the weakest link of our education system. Laying the foundation for an enlightened education system starts with the education of our pre-schoolers. It is the measure of the strength of a nation.

To solve the lag in educational achievement among poorer segments of society, we have to address the adverse effects poverty and other social troubles. According to the World Bank,
Investment in education benefits the individual, society, and the world as a whole. Broad-based education of good quality is among the most powerful instruments known to reduce poverty and inequality. With proven benefits for personal health, it also strengthens nations’ economic health by laying the foundation for sustained economic growth. For individuals and nations, it is key to creating, applying, and spreading knowledge—and thus to the development of dynamic, globally competitive economies. And it is fundamental for the construction of democratic societies.\textsuperscript{8}

Education is vital to the equitable functioning of society, it must be freely accessible to every child. It is beyond argument that the deprivation of sound early education disadvantages those who cannot afford it and perpetuates the poverty cycle. Equal opportunity through education cannot, therefore, be left to the free market, it must be provided for by the state. A good early childhood education programme will ultimately benefit the country as a whole.
CHAPTER 5

PRIMARY AND SECONDARY SCHOOL
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The subject of schooling, both at the primary and secondary school levels, elicit strong responses from teachers and parents alike. This is because students have to take the Primary School Leaving Examination (PSLE) in Primary 6 and are then streamed when they enter secondary school. Such streaming has a significant impact on the paths the students take after they leave school. Not surprisingly, this places much pressure on students to perform well in their PSLE. In addition, the curricula is intense which make it even more stressful for our children. It is, therefore, important that this paper examines these issues at length and provide alternative measures to resolve them.

**Sorting students**

The practice of streaming started in 1979 when students at the Primary 3 level (nine-years old) sat for a year-end examination. Then deputy prime minister (the late) Goh Keng Swee was appointed to study Singapore’s school system in 1979. His team recommended that students be streamed at Primary 3 into the Normal, Extended or Monolingual streams based on their scores. Normal-stream students would carry on with another three years of primary school education until Primary 6 when they would take the PSLE and be further streamed in secondary school. Extended-stream students would take two additional years of primary school until Primary 8 before taking the PSLE. The Monolingual stream would also require its students to take eight years of primary school at the end of which the students would be eligible for vocational training rather than secondary school.

The system carried on until 1992 when streaming for primary school was pushed back one year. The streams were changed to EM1, EM2 and EM3 where emphasis was given to the teaching of languages and mathematics. EM1 students were proficient in both English and Chinese, Malay or Tamil. EM2 students were strong in English but deficient in their mother tongue. EM3 taught both languages at the ‘foundational’ level. In 2004, the MOE announced that the EM1 and EM2 streams would be combined. The EM3 stream would continue to cater to the “less academically inclined pupils”.¹

¹
In 2008, the government completely did away with streaming at the Primary 4 level and replaced with the “banding” system whereby students weaker in certain subjects would be banded or placed together in a class in order to “provide students with customised and differentiated learning experiences, so as to realise their potential”. But even though Primary 4 streaming has been abolished, schools continue to use the examination results to identify and rank students according to their performance in year-end examinations.

The PSLE, however, remains. Based on their results, Primary 6 students are streamed to one of three streams when they enter secondary school: Express, Normal (Academic) and Normal (Technical). Streaming in secondary school is discussed in a later section. What subjects students take during the secondary school years will determine greatly what courses they will enroll in if they enter tertiary education. It is, therefore, not an exaggeration to say that for most students, their lives, both academically as well as after they leave school, are charted out for them while they are still in primary school.

**Curriculum escalation**

Not only does the streaming separate the ‘strong’ students from the ‘poor’ ones, the curriculum in the primary school system has been intensified considerably. Students entering Primary 1 are not just expected to be able to read and write but also do mathematical operations. Academics Michael Barr and Zlatko Skrbis show below the escalation in content of the mathematics syllabi in Singapore schools between 1980 and 1999:

<table>
<thead>
<tr>
<th>1980</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Count from 1 to 100 and to develop the notion of magnitude in numbers;</td>
<td>• Develop understanding of mathematical concepts: numerical, geometrical, statistical;</td>
</tr>
<tr>
<td>• Read and write numerals from 1 to 100;</td>
<td>• Perform operations with whole numbers;</td>
</tr>
<tr>
<td>• Add and subtract numbers up to 20;</td>
<td>• Recognise spatial relationships in two and three dimensions;</td>
</tr>
<tr>
<td>• Develop the concepts of multiplication and division;</td>
<td>• Use mathematical language, symbols and diagrams to represent and communicate mathematical ideas;</td>
</tr>
<tr>
<td>• Identify and name familiar shapes;</td>
<td>• Present and interpret information in written, graphical, diagrammatic and tabular forms;</td>
</tr>
<tr>
<td>• Arrange objects and make patterns according to given attributes;</td>
<td>• Recognise patterns and structures in mathematics;</td>
</tr>
<tr>
<td>• Estimate and measure length and weight with non-standard units;</td>
<td>• Develop and perform mental calculations;</td>
</tr>
<tr>
<td>• Construct and read pictograms.</td>
<td>• Use mathematical concepts learnt to solve problems;</td>
</tr>
<tr>
<td></td>
<td>• Develop an inquiring mind through investigative activities;</td>
</tr>
<tr>
<td></td>
<td>• Enjoy learning mathematics through a variety of activities.</td>
</tr>
</tbody>
</table>

Table 3: A comparison of the stated objectives of the Primary 1 Maths syllabi
(Source: Barr and Skrbis)

Barr and Skrbis described the situation as such:

Significantly the 1999 syllabus expected Primary 1 children to perform some functions that
in 1980 were not learnt until much later. For instance in 1999, a Primary 1 child was expected to learn how to construct, read and interpret picture graphs, whereas in 1980 a child was not expected to read or interpret column graphs until Primary 3, and even then they were not expected to construct them. In 1999, Primary 1 children were expected to solve word problems using addition, subtraction had money, which meant that a child who could not read upon entering Primary 1 not only began school by failing English, but also struggling with Maths. In 1980 the equivalent word problems were introduced only in Primary 2. If this is the level of escalation in junior primary, it is not at all hard to imagine the escalation of standards in the PSLE...

By the time the students end up in Primary 6, they have to solve “non-routine” problems that require advanced mathematical techniques. A Primary 6 mathematics textbook taught students techniques that are “not encouraged” at the primary school level. The author explained that although solving word problems by algebra is not encouraged at the primary level, combining algebra with model(s) is a rather efficient method in this concept. Without the inclusion of real values, the Simultaneous Concept, when used in the right ways, can assist us to solve non-routine problems efficiently.

One question in the book asked students to solve the following problem:

There were 800 children in Group A and 30% of them were boys. There were 400 children in Group B and 60% of them were boys. After some transfers between the two groups, 25% of the children in Group A and 75% of the children in Group B were boys. How many children were transferred from Group B to A?

Some of the sums are so complex that in 2005, a parent whose child had taken the PSLE said that even he could not readily solve some of the questions and he had a PhD in mathematics-related disciplines. He said that “some questions are utterly unreasonable as they require unique, tedious and often one-of-its-kind model approach....[that will] only create a legacy of fear...”

In 2007, several teachers said they had never seen so many pupils cry after a PSLE paper. One said that she needed a calculator to solve one of the problems (back then pupils were not allowed to use calculators). The paper was so difficult that a top pupil broke down and wanted to quit, a teacher had to be summoned to the examination hall.

The chief executive of the Singapore Examinations and Assessment Board explained that PSLE papers are set to differentiate between pupils of different abilities: “It’d be a problem if 30 percent of the cohort scores full marks. Then how do you differentiate between the average student and the brightest of the lot?” Why do we have to put our young children through so much pain and anguish just so that we can separate the “brightest of the lot” from “average students”? How do we encourage the love
of learning if we instil so much anxiety and frustration from the learning experience? Can such a system help us attain the DOE laid out by the MOE?

We must remember that these students are only 12 years of age. Being unable to answer the questions or finish the paper—despite their practising for the examination for years—sends them one message: You’re just not good enough. This is not the way to motivate students, even the top ones.

The intensity of the curriculum, both in the quantity and degree of difficulty, means that teachers have insufficient time to complete the syllabi during official school hours and have to conduct ‘supplementary’ and ‘remedial’ classes for the students after school hours. Yet, this is still insufficient for students to master the material taught, pushing parents to seek private tuition for their children. This cuts down the time for recreation and rest for the students even more. Weekends and holidays are taken up by ‘camps’ and ‘enrichment courses’ for students. Such a harried work schedule leaves students burned-out and strangulates any creative tendencies left in them.

**Streaming and its effects**

The competitive nature of the streaming system and the workload placed on students has a worrying effect on the health of children. With over 50 percent of our schoolchildren diagnosed with shortsightedness (a problem caused by engaging in “long hours on near work such as reading and doing homework”) we have become the myopia capital of the world. Fifteen percent of four-year-old Singaporeans suffer from the condition with the number increasing as the students increase with age. By seven years of age, 30 percent are myopic.

Singaporean children also suffer from psychological disorders. As mentioned in an earlier chapter, schoolchildren dread having to face examinations. In a survey commissioned by the Singapore Press Holdings, students aged 10 to 12 said they were more afraid of exams than of their parents dying. One-third of the 1,742 respondents said they sometimes think that life is not worth living. “That’s scary,” a psychiatrist was quoted as saying. “What kind of life are we putting our kids through if they’re so frightened of examinations?”

Consider the following facts:

- Health statistics reveal that the number of persons under 18 seeking psychiatric help has been increasing through the years. The number of outpatient cases doubled from 1,126...
cases in 1990 to 2,491 cases in 2000. Of these, half were of primary-school age.12

- Between 2005 and 2010, child outpatient cases increased by 16 percent to reach 3,126 in 2010. Again, more than 50 percent of these cases involved children between the ages of six and 12.13

- The number of children warded for “aggressive, suicidal or hallucination tendencies” at the Institute of Mental Health (IMH) jumped by 35 percent from 253 cases in 2005 to 351 in 2010. Mental health professional’s attribute these problems to academic stress.14

- In a study conducted by the IMH in 2007, 12.5 percent of 2,139 healthy primary schoolchildren demonstrated signs of psychological problems including being withdrawn, anxious and depressed.15

- In 2007, the IMH started a programme called Response, Early Intervention and Assessment in Community Mental Health (REACH) to help schoolchildren with psychological problems. Calls to the programme rose from 306 in 2007 to 8,336 in 2008. The number of students referred by also rose dramatically from 14 to 739 in the same period. Seventy percent of the cases involved primary school children.16

Ten-year-old Lysher Loh climbed over the parapet on the fifth floor of her flat and jumped to her death. Two weeks before she committed suicide, she told her maid she did not want to be reincarnated as a human being because she did not want to have to do homework ever again. The last straw came when she fared poorly in her mid-year examination results.17 Unfortunately, Lysher’s mental condition is all too common in Singapore. Mental health professionals found that 12.5 percent of primary-school children in Singapore suffer from depression and anxiety. As high as the number is, the researchers say that this might be an underestimation of the prevalence of mental health problems among children.18

It is a travesty to subject our schoolchildren to such nightmarish experiences. Children at such an age should be encouraged to read and develop a love for books, to collaborate and share with their peers what they know, learn the values of humanity and development character. They should not be subjected to crippling workloads and be psychologically maimed. The goal should be to lead them to learn, not push them to study. The former will open up their naturally enquiring minds, the latter will kill off curiosity. All the PSLE and streaming do is to reinforce unhealthy competition among children, leaving the better performing students to develop an illusory sense of superiority and the rest losing interest in discovery and exploration, with both sets of pupils picking up the worst habits of schooling. This schism will drive an ever deeper wedge into society, negating efforts to build a cohesive society.
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Proponents of streaming say that the sorting of students into stronger and weaker classes allows educators to teach at a pace that maximises the students’ performance: The bright students can excel unfettered while the weaker students can learn at their own pace without pressure. In an ideal world this would be true. The problem of labelling effects notwithstanding (as discussed in the previous chapter), the resources, both human and financial, allocated to the classes do not lead to the intended outcomes. The elite schools and classes are much better endowed (usually because of alumni donations) with more motivated teachers whereas the weaker ones are left with teachers who may or may not be trained to handle students with different needs. Barr and Skrbis note:

If, however, you were dealt a poor hand or failed to focus and achieve academic success in lower primary school for whatever reason, you found yourself, according to an Institute of Education report from the 1980s, being taught an ‘unstimulating learning menu’ in large classes by teachers who did not want to be there, and who lacked adequate training.19

Giving to the 'Gifted'

The prime manifestation of the government’s programme to separate the ‘best from the rest’ is the Gifted Education Programme (GEP) which was set up in 1984 to identify and groom academically strong students. Even though streaming at Primary 3 was abandoned, pupils at the level now take the GEP Screening Test which comprises two papers: English Language and Mathematics in August every year. About 4,000 students make the cut and they are then invited to take the GEP Selection Test in October, comprising three papers: English Language, Mathematics and General Ability. Out of these, a select few (one percent of the cohort) will qualify as ‘gifted students’ and taken into the programme. Upon entering Primary 4, these students take special programmes to help them further excel.

Several elite schools have been selected to offer special enrichment programmes for such students: There are currently nine primary schools offering the GEP: Anglo-Chinese School (Primary), Catholic High School (Primary), Henry Park Primary School, Nan Hua Primary School, Nanyang Primary School, Rosyth School, Tao Nan School, St. Hilda’s Primary School, and Raffles Girls’ Primary School. GEP students still have to sit for the PSLE but they are eligible for special enriched programmes under the School-Based Gifted Education when they enter secondary school.

There has been criticism that the GEP exacerbates the problem of elitism in Singapore’s schools. The Senior Parliamentary Secretary for Education, Sim Ann, refutes this, saying that the GEP is not...
meant to give students in the programme added boost. Instead, she explained, it is aimed at nurturing “creativity” and “higher-level thinking” of pupils who demonstrate strong academic abilities. Such denial contradicts GEP’s stated objective which is to give the participants “an enriched curriculum that is pitched to challenge and stretch them...The main advantage of the GEP is the differentiated curriculum that offers individualised enrichment and attention to the gifted pupil.”

There are too many in government that think like Sim Ann: That creativity is best nurtured among ‘gifted’ students. This is untrue. In the first place, students identified for the GEP are intellectually capable and high-achieving individuals who will probably continue to excel and eventually take up the higher status professions. This is different from being creative. Individuals like Wolfgang Amadeus Mozart, Leonardo da Vinci, Isaac Newton, Albert Einstein, Mohandas K Gandhi, Rabindranath Tagore, Martin Luther King Jr, Yo-yo Ma, Andrew Lloyd Weber, Steve Jobs and so on are some of the most creative persons whose geniuses did not come about by taking a series of English and Mathematics tests when they nine-years old. Truly gifted people do not need screening tests to identify their talent and enrichment programmes to nurture their gifts. What they need are environments that do not constantly make them sit for examinations and that make them conform to the government’s way of thinking.

By making children sit for screening tests and then enrolling them in the GEP, the system is inadvertently cutting off many creative individuals who are, by their nature, not predisposed to doing well in tests but who have talent that such tests cannot identify. As experts have repeatedly pointed out, children are inherently creative. It is the school system that instils a sense of conformity and brings about a sterile environment hostile to creativity.

Let children develop first

It is not clear that by 12 years of life (Primary 6) children would have developed sufficiently in their cognitive skills to be ranked according to their academic calibre. There is research evidence to show that cognitive processes continue to develop over a period until the early teenage years. The frontal cortex in humans is often associated with cognitive functions such as abstract thinking, planning and problem solving. It would, therefore, seem premature to stream our schoolchildren according to their cognitive abilities at the point when these functions are still undergoing development.

Furthermore, human cognitive development does not follow a regimented schedule during the formative years. Individual differences among children with respect to the rate of development of mental functions are greater than assumed. Under the present system, a child who is slower in
cognitive development than another gets streamed to a course with less options. This, however, does the slower student a disservice because his development is not allowed to take its full course. Assessment of the child’s academic ability at this stage is misleading and unfair.

Another problem of streaming is the phenomenon of labelling. It is widely documented that human beings who are negatively stigmatised as a certain type tend to behave in ways that confirm these attributes placed upon them. This self-fulfilling prophecy is even more evident in children. In experiments, when told that certain physical attributes produced inferior qualities in humans, children who possessed these attributes tended to demonstrate undesirable behavioural responses. As a result, the quality of their schoolwork deteriorated. On the other hand, children who were informed that they were intelligent and better people because of certain physical traits they possessed showed more positive behaviour and better school work. This is not to mention the latent effects of negative labelling of children such as low self-esteem, and a sense of loss of control over the environment—qualities often associated with good academic performance.

In addition, the pessimistic expectation of teachers, parents, and relatives toward these children who are labelled as unintelligent may result in these adults inadvertently and unintentionally behaving in ways that illicit unimpressive behaviour from the students. Here again, prejudice and negative stereotyping tend to produce a pattern of behaviour in students whose consequences confirm the expectancy. In our society where the dogma of excellence is held in high esteem, it is not difficult for such children to feel less valued as well as for others to feel similarly towards them. This, according to researcher Irene Ng, leads to teachers blaming the students’ social and family environment which takes attention away from developing teaching methodologies to address the deficiencies. Ng wrote:

The educators’ ways of talking about the EM3 pupils fit discourse practices which locate the causes within their minds, with quite a few also suggesting a flawed character. As for the pupils, the only attribute they attach to themselves reflects the overriding view of society—the lack of intelligence...Teachers in this investigation are often seen interweaving literacy in terms of home, SES (socioeconomic status), lack of support, disinterested parents and bad behaviour. The most insidious theme that emerged in teachers’ accounting practices is that ‘children are what their families make them’ which, of course, diverts attention from any critical analysis of schooling and the methods and materials they employ to teach language and literacy.

More sorting

After getting through the PSLE, the majority of students are placed in one of three streams when they enter a secondary school: Express, Normal (Academic) and Normal (Technical). The Express
stream is reserved for students with the best results, Normal (Technical) the worst and Normal (Academic) in the middle. There is also a hierarchy of schools when it comes to students being accepted into the streams. For example, the best performing students are accepted into the Express stream in top schools while those who don’t qualify but perform above the level of Normal stream students are placed in the Express stream in ‘neighbourhood’ schools.

Express students go through four years of schooling before the take the General Certificate of Education Ordinary (GCE ‘O’) Level examination often with the objective of studying at the pre-university level. Normal (Academic) stream students sit for the GCE ‘N’ Level examination at the end of four years or they can opt to take the ‘O’ Level examination after five years of classroom instruction. Students in this stream are mainly prepared for entry into the polytechnics. Normal (Technical) students are provided basic training with the view of pushing them into the Institute of Technical Education (ITE) where they further undergo training for jobs mainly as technicians and mechanics.

Students are taught different subjects in the various streams and are ‘encouraged’ to explore the options placed before them when considering their post-secondary education. For example, students in the Express stream in neighbourhood schools are provided information about studying in the polytechnics rather than junior colleges. Entering a local university is much easier for junior college students than polytechnic students.

While it is possible for students to switch to higher streams (for example, a Normal Academic stream student to transfer to the Express stream), it is very difficult to do so because of the lack of exposure to some of the subjects that students in different streams are taught.

Then there are other streams reserved for students who have performed exceptionally well in their PSLE. These students are schooled separately in Independent Schools which provide a variety of tracks, including:

- Integrated Programme which allows students to take a six-year course ending in their taking the GCE Advanced Level and bypassing the GCE ‘O’ Level examination. The attraction is that the programme allows for more time to be allocated for enrichment activities and enjoy a more broad-based education.

- International Baccalaureate programme is designed for students who wish to study under a secondary school programme different from the Cambridge-based GCE system. This course is also a six-year study at the end of which students are eligible for university enrolment.

- School-based Gifted Education is offered in selected secondary schools to pupils who sat through the primary school GEP. Under this programme, subject courses are tailored to the needs of the students.

The education system in Singapore assesses and categorises students at an early age starting in primary school. This finely calibrated sorting process continues with increasing specificity throughout secondary school and significantly impact upon the station in life each student will eventually occupy in life.

Such micromanagement extends to how they perform for each individual subject at the PSLE. If a student scores an A grade for a subject but does poorly overall in the PSLE and ends up getting
streamed into the Normal (Academic) stream, he or she is allowed to take that subject at the Express level. Given the complexity of human development, it defies logic how a system can predict student performance with such precision without incurring an enormous wastage of unidentified and, therefore, undeveloped talent, not to mention the psychological harm inflicted on our students.

**What others are doing**

There are alternative education systems that Singapore can study. Finland’s school system, for example, is admired globally. Finnish students perform at or near the top of the PISA which analyses the performance of 15-year olds in Reading, Mathematics and Science. The focus of the Finnish education system is on the individual student; if a child is behind in performance, teachers get together to draw up a plan to address her individual needs. In the same vein, if a student excels, the teaching staff is trained to cater to her needs. The country’s education system has some unique qualities:

- It is not mandatory to give students grades until they are in the equivalent of Secondary 2.
- It does not give students standardised tests.
- Teachers are required to have a master’s degree.
- The emphasis is on equality rather than elitism.
- Schools don’t assign homework, mastery of curriculum is attained in the classroom.
- Schools encourage participation in sports but not competition in sports.
- Schools collaborate rather than compete with each other.
- There are no private schools; all schools have more or less equal performance and are not ranked.
- Primary schools don’t just teach Reading, Mathematics and Science but also the humanities, arts and dance.

Finland’s students do not only perform well on the PISA but are also well prepared for the knowledge economy. This is demonstrated by the Knowledge Economy Index (KEI), a survey which the World Bank conducts to assess how well economies are adapted to, and prepared for, the knowledge economy. The KEI comprises several variables categorised into four components:

1. An economic and institutional regime that provides incentives for the efficient use of existing and new knowledge and the flourishing of entrepreneurship.
2. An educated and skilled population that can create, share, and use knowledge well.
3. An efficient innovation system of firms, research centres, universities, think-tanks, consultants, and other organizations who can tap into the growing stock of global knowledge, assimilate and adapt it to local needs, and create new technology.
4. Information and Communication Technologies (ICT) that can facilitate the effective communication, dissemination, and processing of information.

The top three positions of the KEI out of 146 countries are (in order): Denmark, Sweden and Finland. Singapore ranked at only 25th. And while Singapore ranks second on the PISA, Denmark
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and Sweden (and Finland as mentioned) are not far behind. Crucially, the Swedish, Danish and Finnish children are not subjected to punishing regimens in order to achieve the high levels of academic performance.

The KEI and PISA for Singapore scores suggest a system where students are drilled hard in Reading, Mathematics and Science but have greater difficulty in turning that advantage to building a knowledge economy. The result is that while the Scandinavian countries produce global companies like Ikea, Volvo, Nokia, Bang & Olufsen, Lego, Ericsson, Electrolux, etc, Singapore has little to sell to the world.

In 1999, then Education Minister Teo Chee Hean gave a speech about Singapore becoming a knowledge-based economy. He noted that our education system would be improved to take Singapore into the future:

Our schools have prepared our students well in mathematics and science. This has provided a strong foundation. What we have to do now is to go beyond teaching the basic literacy skills and focus on developing our students’ ability to think, assimilate information and knowledge, and apply this knowledge continually on their own. The curricula are being revised to enable students to have more time and opportunities to explore and experiment, so they can exercise and develop their thinking, information and creative capabilities.31

Fifteen years on, our education system has not made us competitive amongst the leading countries in the KEI. In fact, economists point out that Singapore’s GDP rise has come largely from input-driven growth rather than creative production. Indeed, observers note that Singaporeans while technically competent, are not as good when it comes to creative thinking. An analyst remarked that “Singapore’s problem is expecting competent technocrats at home to operate as fire-in-the-belly entrepreneurs...”32 Such a view was reiterated by a financier who relocated to Singapore: “Although the system has created many gifted technically capable people, it has done so at the cost of creativity and lateral thinking. I have found it much easier to succeed against ‘smarter’ competition in Singapore than any other country in which I have lived.”33

The alternative

Given the serious problems that our primary school system faces, it is imperative that alternative ideas be considered. The SDP proposes the following measures:

1. Cultivate creative minds

Given the significance of a changing global economy and the emphasis on creativity and innovation, as discussed in Chapter 3, the curricula in primary schools must perforce be modified.
Continuing with the present arrangement will lead to our system producing students who will be ill-equipped to face future challenges. The objective is to enable students to acquire more flexibility in their cognitive skills when it comes to handling future challenges and to encourage an attitude of openness to new ideas. In order to outfit our classrooms to cultivate creative minds, this paper recommends that our schools adopt a new approach that includes what educationalist Ken Robinson outlines as building confidence in children, looking for creative strengths in students and helping them develop these strengths:

1. Build confidence in children

Teachers are in the unique position of encouraging students to understand that every individual has a potential for creative work and to nurture this confidence so that children will believe that they are creative. They must be encouraged to try to develop this potential without which the creative nature will not manifest itself. Teachers must also be trained to help their students adopt an attitude of independent thinking, willingness to make mistakes and learn from them, and persevere in the face of failed attempts.

2. Identify strengths and passion

The structure of our schools and their curricula must also be appropriately equipped to help students discover their talent and passions. At the primary school level, we must not limit our students to the study of language, mathematics and science. We must also expose our children to the arts and humanities, and for each student to explore their love for the various subjects and disciplines. It is only when they develop a passion for the areas that they are good at, can children develop their creative potential.

3. Develop creative skills

Further to building confidence and identifying students’ strengths, teachers must be trained to help students develop creative skills by:

- encouraging students to ask questions rather than passively absorb classroom material
- fostering the attitude in students to express their personal feelings and ideas rather than suppressing them
- discouraging punitive action and criticism for mistakes made by students
- facilitating discussions of ideas and possibilities among students
- teaching skills to critically evaluate ideas
- raising the awareness that creative work takes time for development

II. Remove PSLE and delay streaming

The effort to cultivate creative skills will be undermined if we continue to emphasise on intense competition among students in the form of examinations and streaming. There is no benefit by insisting on assessing the abilities and talents of primary schoolchildren from how they perform on a single examination at the end of their six years of primary school education. Not only are we forcing our children to continue with the out-moded practice of memorising and regurgitating
information, we are also depriving ourselves of talented students who develop only at a later stage of their lives. Under such circumstances, creativity cannot flourish.

In addition, streaming at an early age disadvantages students who are slower learners and those who are not able to afford expensive private tuition. A major study conducted by the OECD showed that early classification of students according to ability “has a negative impact on students assigned to lower tracks and exacerbates inequities, without raising average performance.” The study also concluded that streaming should be deferred to upper secondary education.34

Therefore, under the SDP’s education plan, the PSLE will be removed and students entering secondary school will not be streamed. Streaming of students will be done at an appropriate age after cognitive functions have more or less fully developed, not before.

III. Broaden curricula, reduce syllabi

The cramming of large syllabi into the primary school curriculum produces at least three adverse consequences:

One, it exacts an enormous toll on the psychological and physical well-being of our children as highlighted in Chapter 5.

Two, drilling primary school students on complex and high levels of language, science and mathematics content provides a malformed education. The result is that while well-versed in these subjects, our students are ill-equipped at interacting with their peers, collaborative work, and expressing themselves. In addition, the large amount of time and energy required to pass, let alone master, the subject material means that children will have neither the ability nor inclination to do very much else. The first activity to be sacrificed under such circumstances is recreation, including recreational reading, which are important avenues for learning.

Three, a high-intensity curriculum forces teachers to complete the material at a fast pace often resulting in students being unable to understand and digest material. Concerned parents engage private tutors to help their children cope. This leaves teachers frustrated, many of whom choose to leave the teaching profession to become tutors. Former teacher Leong Sun Yee explained:

[Teachers] have to teach according to the level of the majority, so if most students have tuition, the teachers cannot slow down for the few that don’t. Thus, a vicious circle ensues: Good teachers leave to teach at centres while parents lose faith in the schools’ ability to deliver good education, and turn to tuition.35

One parent posted a petition to the Minister for Education on Change.org to calling for the syllabi in schools to be reduced so that students can develop holistically and teachers can find more time to
Teach. The petitioner wrote:

This obsession to produce “advanced” students at an early age has got to stop. Only when we give more time to our kids to play, and explore other healthy pursuits, can we create a society of well balanced individuals, who understand that that there is more to life than just work.

Family lives will improve because parents will no longer be under so much pressure to work longer hours to find tuition for their children. Parents who are previously coaching their own children can refocus their energies on wholesome family-bonding activities instead.

Teachers, when are freed of the need to chase for time, will then be able to focus on giving quality education to their students, designing lessons to be more enjoyable and interactive for the children. Happy teachers will produce fun lessons which children will look forward to. Happy students will be motivated students, and when lessons are stimulating, real learning takes place.

Isn’t that the point of it all?36

Even China whose students who came out tops in PISA ranking in recent years is reviewing its approach towards education. Its ministry of education plans to reduce the heavy workload whereby primary schools will no longer set written homework for students. A Chinese education expert gave the reason for this reform: “In the long run, for us to become a strong country, we need talent and great creativity. And right now, our educational system cannot accomplish this.”37

The SDP’s education policy thus recommends that the syllabi in our primary schools be reduced in depth but increased in breadth. Such a curriculum will contribute to making learning a stimulating experience while fostering an environment that augments each child’s creative nature. Instead of drilling the children to become cleverer at answering examination questions, our proposal is aimed at cultivating a life-long love for learning. We will carry this out in two ways:

One, a National Board for Curriculum Oversight (NBCO) comprising of educationalists, principals, teachers and psychologists will be established to review the current curricula offered in Singapore schools. They will conduct an intensive as well as extensive study of other successful education systems especially in the Nordic countries.

Schools in Singapore focus on English, Mother Tongue (Chinese, Malay or Tamil), Science and Mathematics. In a week, a primary school typically sets aside between 6-7 hours for the languages,
5-6 hours for Mathematics, and 2-3 hours for Science. In addition, students are often required to stay back after school hours to attend supplementary classes for these subjects. Much less attention is paid to other subject areas such as humanities and arts. In a week, most primary schools set aside only 1 hour for Art & Craft, 1 to 1 1/2 hours for Physical Education and often no time for music and literature.

While it is important for our students to attain a competent level of literacy and numeracy, it is unwise to neglect the other subject areas such as the arts and humanities. The SDP will introduce a wider range of subjects including allocating time for music appreciation, speech and drama, literature, art, and physical education. Traditional subjects will have equal status with these subjects and roughly the same amount of class time (about 3 hours per week) will be set aside for all the subjects. Regular periods will also be set aside for students for collaborative and interactive activities where the children are encouraged to communicate with each other and work in teams rather than compete with each other as individuals.

The amended curriculum will provide primary school students with a well-rounded start to their educational experience including developing skills in effective communication and self-expression, a healthy appreciation of the human condition, and intellectual capacity for later development.

Two, the content should be reduced to the extent that students are not saddled with homework. Teachers will be required to assign revision and exercise work that must be completed in school (school hours will be extended, see below) under staff supervision and guidance. When students are dismissed, they should spend the time at home with their families and for recreation. Students should also be able to go to bed early. Children in this age group require a recommended 10 hours of sleep. In Singapore, many students go to bed late because they have to complete their homework, leaving them with inadequate rest and sleep. Under the SDP plan, teachers are not to set homework on weekends beyond that which can be completed within two hours.

**IV. Encourage reading**

The present system extinguishes our students’ desire to learn and explore. They develop an aversion for books because they are associated with examinations. The negative emotions that come from having to secure high grades in order to advance to good schools and classes, do not foster a culture of reading. Under such circumstances when examinations are over, so is picking up a book to read for pleasure. It is the love of reading that encourages life-long learning and cultivates a creative mind.

Students should, therefore, be encouraged to read. It is widely acknowledged that a healthy habit of reading is best nurtured during the early stages of a person’s life. Reading helps to

- Stimulate cognitive processes
- Broaden general knowledge
- Expand vocabulary
- Strengthen analytical skills
- Improve concentration
- Enhance writing and comprehension skills
- Increase verbal ability
- Raises academic achievement
In Singapore, however, schools provide little time for children to indulge in reading for pleasure because of the workload assigned in class. After completing their homework, students have neither the time nor energy for recreational reading. Because they associate reading with studying and preparing for tests and examinations, they prefer to indulge in other recreational activities such as playing computer games, surfing the Internet and watching television. Such a view is confirmed by education researchers at the Nanyang Technological University who found that a majority of Singapore students were reading to improve their academic performance. This could possibly be due to stressful Singapore education system which places high emphasis on meritocracy and good grades. Students often face pressure from their parents and teachers to improve their academic performance. The findings of this study suggest that probably even primary level students are not free from this pressure. Many children also expressed the wish to have more time for fun reading.\textsuperscript{38}

The researchers recommended that MOE consider reducing the workload of primary school children in order that they have sufficient time voluntary reading.

Under the SDP policy, schools will be required to set aside time for students to read books that they borrow from the library. Students will be able to request for titles that they wish to read and the MOE will, in collaboration with the National Library Board (NLB), do its utmost to make the books available in school libraries. The NLB, through the Community Libraries, will make regular visits to schools to give talks and encourage the habit of reading among students.

\textit{V. Lengthen school hours}

All schools will adopt single sessions. Currently, most primary schools begin at 7:30 am and end at about 1:30 pm, a total of six hours of classes (including Recess). The SDP will extend school to eight hours starting at 8 am and ending at 4 pm. As mentioned, time will be put aside for students to complete their assignments within school hours so that they don’t have to complete their work at home. This will also allow teachers to provide guidance for their students in their school work thereby ruling out the need for private tuition. Students will also be given ample time for lunch so that they can indulge in interactive social activities.

\textit{VI. Provide school lunch}

The MOE will arrange for schools to provide school meals during lunchtime. Nutritionists and dieticians will be engaged to ensure that the meals are maintained at a high quality. This will ensure that students from poorer families are not deprived of nutrition needed for healthy development.

\textit{VII. Reduce class size}

Research has shown that smaller class sizes promote better quality educational experiences for teachers and students. Behavioural scientists at the University of London found that “smaller classes can benefit all pupils in terms of individual, active attention from teachers, but that the lower attaining pupils in particular can benefit from small classes at secondary level.”\textsuperscript{39}
In addition, educational psychologists found that class-size reduction enhances the achievement levels for students while, at the same time, reduces the achievement gap between strong and weak students. These effects stay with students through early secondary school. The study showed that being in small classes in Primary 3 resulted in increases in school performance that last through to Secondary 2 regardless of whether they are low-, medium-, or high-achieving students.

Local teachers also say that smaller class-size also help students especially those “those who are unable to motivate themselves due to low self-esteem are the ones who will really benefit from small class sizes.”

OECD countries such as Australia, Denmark, Finland, Iceland, Switzerland, United Kingdom, Germany, etc., have class sizes of around 20 students per class.

The SDP will reduce class size in our schools to 20 pupils per class. Currently, many schools have nearly 40 students per class. This places much pressure on a teacher whose time spent with, and individual attention paid to, each student is truncated. With a teacher:student ratio of 1:20, teachers will be able to provide students with the necessary attention to help them develop academically, as well as to tend to problems which individual students may encounter along the way. Also with less students to take care of, administrative work will be reduced which will free up more time for educators to concentrate on teaching. In this manner, slower students can be helped without compromising the rate of learning for the faster students. The NBCO will, apart from reviewing the curricula in our schools, be mandated to oversee the planning and implementation of class-size reduction.

**VIII. Introduce Dedicated-Teacher System**

Under the current system, students are taught by different teachers every year. This makes it difficult for teachers to take a longer-term approach to helping students capitalise on their strengths and overcome/minimise their weaknesses. The SDP will introduce the Dedicated-Teacher System where a teacher will be assigned to a class and that same teacher will take the set of students from Primary 1 to 3 before another teacher is assigned to teach the students from Primary 4 to 6.

This will not only allow the students to build up better bonding with the teacher and their classmates, students with better results will also be able to offer encouragement and peer influence to guide the weaker ones. Through this system, teachers will also have more time to understand
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their students and develop a sense of achievement when their students improve, bringing about the synergy of ownership and motivation. The bonding does not stop here, it stretches from the students to their parents. By having the same teacher throughout provides more time to build trust and cooperation between parents and teachers. After all, it is the combined effort of both the teachers and the parents that will help in the child’s development.

IX. Scrap school and class ranking

Classes should not be ranked with better performing students placed in separate classes from weaker ones. Primary schools group students according to their performance on examinations. This is a wasteful and unhealthy practice and should be scrapped for the following reasons:

1. As mentioned in an earlier chapter, separating ‘brighter’ students from ‘weaker’ students creates the problem of labelling where teachers tend to view better students positively while reacting negatively towards the weaker ones. This can result in a disparate treatment of students leading to very dissimilar outcomes of student behaviour and performance. Also, such ranking measures only a narrow definition of intelligence.

2. Students who are ranked in the weaker classes tend to view themselves as inferior and limit themselves to what they are capable of. There is a tendency to live up to society’s expectations of them which is that they are not good enough. This will negatively affect the students’ self-confidence and self-image which affects their ability to excel learning. The cognitive ability of many of these students does not develop until a later age.

3. The system (and even schools themselves) tends to allocate their better and more motivated teachers to teach the better classes and not ‘waste’ limited resources on the lower-ranked classes. This causes the gap between the stronger and weaker students to widen.

4. Ranking serves to create unnecessary and unhealthy competition among students when they should be collaborating instead. The weaker and average students can benefit from the stronger students in such collaborative work while teachers are still able to help the higher-achieving students excel if the number of students per class are kept sufficient small.

5. Ranking of students spoil their relationships with each other. Even though classes are given names such as Humility, Compassion, Zeal, etc to mask the hierarchy, students know which classes are the ‘better’ ones.

This paper proposes that students are randomly assigned to classes at Primary 1 and these students stay with each other until they are Primary 6. As mentioned, the teachers stay with these students from Primary 1 to 3 with another teacher taking over from Primary 4 to 6.

The idea of competition and ranking pervades our school system. Although the MOE has stopped publishing the results of the PSLE by school, ranking of students perpetuates the idea that pitting our students against each other and comparing their abilities based on the results of their examinations is an acceptable norm. *Kiasu Parents*, a website catering for parents with school-going children, provides a ranking of primary schools and explains the criterion for the ranking:
In general, top students do come from top schools. If a school has multiple consecutive appearances, it will imply that it has gotten a good process for churning out top students...The 275 level is used by MOE as the cut-off point for an honorary mention of a school with well performing students for a particular year. Unfortunately, MOE does not release the exact number of such students being produced by each school, so we cannot use that information in our measurement.43

Parents are driven to push their children to out-score their peers so that can get into good classes and, eventually, good schools which will determine their streams and, consequently, their career paths. Such a practice is detrimental to the psychological and physical health of our children. Doing away with student-ranking will create an environment that conduces to cooperation and learning for self-improvement rather than to out-do the competition. Comparing examination results between individual students and classes will only result in principals, teachers, parents (and even students themselves) competing in a way that detracts from the real purpose of education and, in the process, impair the educational prospect of many children. It cannot be overemphasised that learning is not a competition, it is an endeavour taken by an individual for self-improvement and self-actualisation.

X. Upgrade teacher status and training

The cornerstone of a good education system is the quality of teachers. Without dedicated, well-trained teachers who enjoy their work and treat their vocation as a calling rather than merely a means to make a living, a system cannot excel. To examine this issue in greater depth, let us compare two education systems that have produced outstanding academic performances from their students: Singapore and Finland.

Singapore views the teaching profession as lower in status compared to lawyers, doctors and engineers. This sentiment is no better expressed than PM Lee Hsien Loong who, in defending the form of meritocracy that the government practices, said that the best man would get the most difficult job and be rewarded accordingly, while the rest would be govern “consolation prizes”.44 So what is a top job and what is a consolation prize? Mr Lee said: “Within Singapore, we can say...you’re a school teacher, you may not be a top lawyer, but I make sure that you’re also paid properly.” Indeed, teachers in Singapore are the highest paid when compared to their counterparts in other countries. Yet, they occupy a much lower social status in the eyes of the public,45 including the Prime Minister’s.

Contrast this with how Finland treats its teachers. Timo Lankinen, Director General of the Finnish National Board of Education, presented the following points about how his country treats its teachers:
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- High status and good working conditions create large pool of applicants, leading to selective and intensive teacher preparation programs—leading to success in early years of teaching—relative stability of teacher workforce—success with students
- Teacher—one of the most popular professions among students in upper secondary schools
- Prestige without high salaries

While Singapore uses pay as a motivational force for teacher performance, Finland employs healthy working conditions and prestige to attract and retain teachers. Singaporean teachers are paid an average annual wage of US$45,755 while teachers in Finland are paid almost half that amount at US$28,780.

But despite the good pay, Singaporean teachers frequently cite poor and stressful working conditions as a hindrance to their progress in the profession. A letter written to the *Straits Times*, which garnered much attention, gave us a glimpse of the workload that a teacher in Singapore has to carry. The wife of a teacher described how her husband wakes up at 5 in the morning to get ready for work and doesn’t get to bed until 1 am:

> I am often told how the Ministry of Education is easing teachers’ workload, but I see little evidence of it. My husband has been teaching in a neighbourhood school for several years. Despite the mantra of work-life balance, I see little of it in the lives of teachers...Weekends are hardly restful. I often ask him if the endless work is because he is singled out. That is not so, he tells me. His colleagues face the same punishing workload.

Another relative of a teacher also described how the system treated teachers:

> My daughter, a junior college teacher for more than five years, typically works for 80 to 90 hours a week. Weekends are often reserved for marking and events related to co-curricular activity, and the so-called school holidays are filled with remedials, meetings, courses and camps. Things got worse when she had her first child. Choosing to breastfeed for six months, she decided to take two months of no-pay leave, in addition to the four months of paid maternity leave. But she often had to return to school during this time to perform ad hoc duties assigned to her.

Such disappointing treatment of teachers inevitably contributes to teachers leaving the profession, a problem significant enough that caused PM Lee to acknowledge in a speech to educationists in 2009:

> Too few young people wanted to become teachers and too many teachers were leaving the service...if you calculate the numbers who were coming in every year, if you calculate the numbers who were going out every year, and if you calculate how long they stayed on average and you projected the trends, which we did, we knew we had a problem.
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What was the government’s solution? “We did what was the obvious thing,” Lee said, “...and that was to raise the pay.” Teachers’ pay was consequently raised by an average of 15 percent. Lee added that it was “critical” that the government did this so that it could get “dedicated, committed teachers, who would make all our other ideas work.”

In Finland, the government knows that merely giving its teachers high pay is not the answer. Despite the fact that teachers there are paid significantly less compared to Singaporean teachers, Finland does not have a problem retaining their teachers. The reason is that Finnish teachers stay on and, more importantly, take pride in their vocation which has “something to do with the age-old respect for teachers in Finland” as well as “the work itself and the working conditions”.

It is clear that the Singapore’s approach is to throw money at the problem. If teachers are unhappy, the answer is to pay them more so that the monetary reward will keep them at their jobs. The problem that arises from such a practice is that while teachers receive more pay, they are not more motivated to do a good job at educating our children.

But what about the results of the student performance? Aren’t Singaporean students performing at the highest level? Doesn’t that justify Singapore’s approach? Finnish students perform comparably with Singaporean ones but Finland’s students don’t have to supplement their schooling with private tuition as well as suffer the kind of psychological trauma that our children do. The SDP’s alternative programme will:

1. Commission the NBCO to review teacher training at the NIE to:
   - Ensure that teachers are not just competent in teaching the subjects, but also well-versed in motivational skills as well as skills in counselling and social intervention. Teachers should possess post-graduate degrees in education with a firm grounding in educational psychology.
   - Review administrative duties that teachers are currently required to undertake in addition to teaching. The reduction of the number of students per class and the cutting down of subject content for the languages, mathematics and science will significantly reduce the workload of teachers. Administrative work will be kept to a strict minimum so that they can focus on facilitating the holistic development of their students.

2. Upgrade pre-service and in-service training for teachers so that they can gain greater expertise and confidence in teaching and mentoring the students. With increased experience, they will be given more autonomy in the classroom. Teacher training programmes must emphasise teachers as change agents. This means that when they step into schools, they must possess skills that will facilitate collaboration and communication with their students as well as their colleagues. Working with parents is also an important aspect of their jobs. To achieve this, it is important that teachers are empowered to become the professionals who can influence the minds and lives of the youths whom they meet.

3. Assign a qualified school psychologist for every school. Such professionals will work in consultation and collaboration with teachers and parents to:
Educating For Creativity and Equality

- develop effective instruction and development of cognitive/academic skills,
- design programmes to assist students with behavioural and learning deficiencies,
- monitor the psychological health of students,
- to conduct parenting courses (see below)
- conduct school-based research with other school professionals to improve the quality of teaching and student improvement, school-system organisation, and evaluate programmes.

XI. Reinstate aptitude testing

Under the SDP education programme, lower secondary school students will not be streamed into the Express and Normal routes. Their curricula will continue to be broad-based to include the traditional subjects of the languages, mathematics, science as well as humanities and the arts. However, at the end of Secondary 2, pupils will sit for an aptitude test, as was the practice in the 1970s.

Aptitude is an individual’s propensity for, and inclination towards, a type of task; it is different from cognitive ability (as described in Chapter 3) in that it comprises different characteristics or facets of intelligence. An aptitude test is, therefore, one designed to assess a student’s capability of performing a certain type of task. It attempts to predict the extent to which a student is able to acquire different skills, and in so doing, help to determine what tasks he or she will be more skilled at performing. An aptitude test is different from classroom tests and examinations in that it is not an assessment of previously acquired knowledge. In other words, one cannot study for an aptitude test or practice past-year examination papers in order to improve one’s scores. Based on the scores, students can be placed in classes that capitalise their strengths when they enter Secondary 3. All classes will still continue to teach the core subjects (languages, basic mathematics and science) but students will have a freer hand to take non-core subjects that appeal to their aptitude (advanced mathematics or sciences, humanities, the arts, etc).

XII. Organise secondary schools according to strengths

Rather than rank secondary schools according to examination results, schools will be grouped in
clusters according to their geographical area. Each cluster of secondary schools will offer subjects that complement, rather than compete with, each other. These schools will be categorised based on teachers’ specialisation in the subjects they teach and their pedagogical approach. The schools will have greater autonomy when it comes to resource management and planning as well as the development of the curricula within the broad framework laid out by the MOE.

With the abolition of the PSLE, students entering Secondary 1 will not be admitted to secondary school based on the PSLE results. As mentioned, secondary schools are no longer ranked according to examination scores. Students and parents, therefore, do not have to worry about getting into top-ranked schools. All secondary schools will have equitable resources, facilities and quality teachers to provide first-rate education. The major consideration for secondary school entrance is geographical proximity of the school to the student’s residence. Apart from the location of the school, students and parents will indicate their preference based on a set of information (for example, a sibling who is already studying in that particular school or a sport that the school excels in) provided to the MOE. Based on the information submitted, the MOE will adopt a process of matching the student with the school that will optimise the student's preference and the school’s strengths.*

Upper secondary school students will have a greater choice of subjects and can even take subjects that are not offered in their schools but provided in other schools within the cluster. The choice of subjects taken outside of the core curriculum will be decided by the students and their parents in consultation with the teachers. The aptitude test indicators will serve as guide to how students should orientate their studies at the upper secondary school level and beyond. In this way, schools will be able to tap into the strengths of the students using enhanced pedagogical methods and teaching technologies which will provide the impetus for innovative excellence. The more involved students, and their parents, are in choosing the direction of their education, the more responsive the schools will be to the needs of the community which will lead to more meaningful experiences for the students and better outcomes for the education system as a whole.

XIII. Involve parents

Parents should get more involved in their children’s school activities rather than leave their education to domestic helpers and private tutors. Their involvement can be facilitated by school psychologists, teachers and other trained professionals through MOE-led programmes. Such programmes are especially important in the cases of children from lowly educated, low-income or dysfunctional families where parents do not have the time to provide a meaningful relationship with their children. Support and education can be provided for parents on the importance of parental guidance and involvement in their children’s development.

*A sound method for student-school matching was developed in 1964 by the late David Gale and Lloyd S Shapley. The Gale-Shapley algorithm for stable matching (also called the “Deferred Acceptance Algorithm”) was used to great effect by Alvin E Roth and others to improve matching students to schools, medical residents to hospitals, and even to kidney donors to recipients.53, 54, 55, 56 68
Parents also need to be informed of the importance of developing the creative potential in their children. Nurturing creativity cannot only occur in school; the process must extend into the home environment. This is where parents need to be educated to ensure that their children are provided the maximum opportunity (such as reading for fun, playing, spending limited time spent on the Internet and computer games).

The Dedicated-Teacher System is an added advantage as parents will have the opportunity to work with the children’s form teacher for an extended period. This provides more time to build trust and cooperation between parents and teachers, and it is this comprehensive, individualised and holistic care that will help in the child’s development.

Parents should also be consulted on programmes conducted under the education partnership programmes where for-profit groups are engaged to conduct enrichment programmes/activities for the students. As such programmes are often paid for by Edusave funds, care must be taken to ensure that the exercise is not abused and turned into an industry driven by commercial instead of educational interests. A well-regulated system where award of contracts are subjected to strict oversight must be in place to prevent misuse of funds and collusion with with business enterprises. Such activities, especially where students are required to pay for the fees either in part or full, should not be made compulsory.

The MOE also conducts student activities under the Community Involvement Programme (CIP) such as visits to facilities for the elderly, newspaper collection drives, donation collection, etc. These activities should also be conducted in consultation with parents. Their objectives should be clearly spelt out so that parents know exactly what will be achieved in each project. Information regarding the risks involved for the students and teachers as well as safeguards taken should be made clear to parents. The activities should be on a voluntary basis and students are not to be coerced in their participation. For example, when students are given collection cans and assigned to collect donations from the public, they are potential targets for criminals. In addition, some parents may object to their children going on donation drives for organisations which are not transparent or accountable in their operations. The misuse of donated funds by the National Kidney Foundation in 2005 is a case in point.

Conclusion

In 2006, the MOE started the Teach Less, Learn More campaign, creating the impression that the government understands the need for a more holistic approach to education. The objective of the
campaign is “so that our students are engaged, learn with understanding, and are developed holistically, beyond preparing for tests and examinations.”57 In 2013, PM Lee announced that T-scores will no longer be used to calculate PSLE results. 58 Instead, PSLE will be based on broader score-bands like the O and A Level results. According to him, this will stop parents from obsessing over one or two marks that their children score in the examinations. “This is one step in the direction to making our system more open, more flexible,” he said.

Despite such a change, outwardly at least, the current system is still anachronistic and does not serve the needs of our nation, both present and future. Tweaking how we calculate PSLE scores will not change anything. Our primary school children are still negatively impacted by the pressure of examinations as well as having their creative potential killed. With the retention of streaming, examinations, and in-depth syllabi, it is clear that Teach Less, Learn More will remain a slogan and little more. (In fact, the MOE says that the Teach Less, Learn More project is not about teachers literally teaching less.)

Primary and secondary school education are years that should bring out the best in our children: Ability, confidence, character, creativity and the desire to learn. Our youths should live as youths and not be compelled to start the grind of working-life while they are still children. Society will benefit more if we allow our children to discover themselves, and for themselves, while growing up. What we need is a deep and comprehensive rethink of our education system, starting with our philosophy of education and what it should do for Singaporeans and Singapore. We must be clear of the kind of citizen that we hope to see emerge from our schools.

Unfortunately, the present system forces them to grow up prematurely by examining, sorting, and training them to become workers for the economy. It over-emphasises the need to learn and retain information which leads to students who are, apart from being good at memorising textbook and trained in taking examinations, unable to become productive contributors to the economy and, more importantly, thinking citizens who can contribute critically to the development of society.

We need a new paradigm as far as our education system is concerned. The changing world demands it and Singapore will be the poorer for it if we continue to resist the urgent necessity to change how we educate our people.
Singapore strives to be the education hub of Asia, if not the world. The government’s policies in steering our institutions of higher learning towards that object is, at best, questionable. Respected universities around the world, as far as academic affairs are concerned at least, jealously defend their autonomy. State interference with coursework, appointment of faculty members, award of scholarships, student activities, research areas, etc. is frowned upon, even resisted by the institution.

In Singapore, however, even though the perception is that universities are autonomous, tertiary education is marked by a high degree of control and management by the government. From the earliest days, the PAP has not been diffident about deciding on the number of universities, university places, funding model and fees, the recruitment of academics, issuance of scholarships for students, what the students can and cannot do or say, the comments that faculty staff make (especially comments that are deemed political in nature), subjects that are taught and so on.

Tertiary education in Singapore adopts the state philosophy that education is an economic tool used primarily to produce graduates trained to service the national economy; it does not see the significance that the individual’s intellectual values and ethics can contribute to the betterment of society.

Additionally, the authorities have an unhealthy obsession with international university rankings which has caused academic staff recruitment to be skewed towards foreigners.

Third, the education sector, including the tertiary sector, is being used part of a wider economic strategy under the Global Schoolhouse project to attract foreigners. The government plans to attract 150,000 international students by 2015, nearly a 100-percent increase from 2006 when there was 80,000 international students. The Minister for Trade and Industry Lim Hng Kiang said that the Global Schoolhouse project was started (in 2002)

first, for the education sector to be an engine of economic growth; second, to build industry-relevant manpower capabilities for the economy; and third, to help attract, develop and retain talent for the economy.

As a result, several international branch-campuses have been set up either independently or in
conjunction with a local institution: INSEAD, Chicago School of Business and Duke-National University of Singapore (NUS) Medical School, New York University, Yale-NUS College, etc.

**The politics of education**

In 2007, the US Embassy in Singapore sent a cable to the State Department that seemed to poke fun at the PAP’s top-down approach at developing creativity and spontaneity in Singaporeans—the secret document was leaked by Wiki-leaks, was titled *Burlesque and billions of dollars later, Singapore still seeking spontaneity.* The private cable was made public when Wiki-leaks published it. In it, Cheryl Chan, Assistant Director of the Planning Division at MOE, was reported to have said that the Singapore government “does not plan to encourage more students to get a higher education. The university enrolment rate will continue to be maintained at 20-25 percent because the Singaporean labor market does not need everyone to get a four-year degree.” The justification given was that the Singapore labour market does not need everyone to do a four-year degree. The document noted that only 23 percent of Singapore students entering primary school completed a degree at a local four year university, compared to around 50 percent in Japan.

The Singapore government did not deny the veracity of the document and its observations. Indeed, former prime minister Lee Kuan Yew seems to lend credibility to the contents when he expressed that having too many graduates would result in them being unable to secure jobs. This, Lee noted, posed a problem for society because they roamed the streets planning violent revolutions.  

Minister for National Development Khaw Boon Wan also expressed similar sentiments in 2013 when he commented on the government’s plans for setting aside more space for universities. He said: “If [graduates] cannot find jobs, what is the point? You own a degree, but so what? That you can’t eat it. If that cannot give you a good life, a good job, it is meaningless.”

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He added, “Can we have a whole country where 100 per cent are graduates? I am not sure. What you do not want is create huge graduate unemployment.” (Such sentiment comes in the wake of the the number of university graduates unable to secure employment. Unemployment among those who received tertiary education rose from 3.3 percent to 3.6 percent in the first half of 2013, above the national average of 2.1 percent."

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This ability of the government to determine the number of graduates our universities produce is another demonstration of the extent of the centralised planning of tertiary education in Singapore.

Not only is tertiary education controlled by the government for political purposes, it is also treated as an business-planning tool. A study commissioned by the Ministry of Trade and Industry stated that education institutions will contribute to “a larger inward flow of foreign talent for Singapore’s economy...” The government even sees education excellence as a “brand” to be promoted as part of its tourism plans. The Singapore Tourism Board (STB) said in its website that

As the marketing and promotion arm for Singapore Education, STB assumes the responsibility of attracting international students to Singapore, and to build international brand recognition for Singapore as a centre for lifelong learning.

Looking out into the world

According to the United Nations Educational, Scientific and Cultural Organisation’s (UNESCO’s) Institute of Statistics, in 2009 (and every year since then), nearly 20,000 Singaporeans were studying in foreign tertiary institutions with more than half of them (10,394) in Australia. The US had 3,923, the UK 3,188, Malaysia 606, and Canada 355. The number of incoming foreign students since 2010 averaged about 50,000 per year. In short, the figures show that the number international inward bound students is more than double the internationally outbound students from Singapore. The breakdown is as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Outbound</th>
<th>Inbound</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>20,351</td>
<td>48,623</td>
</tr>
<tr>
<td>2011</td>
<td>21,072</td>
<td>47,915</td>
</tr>
<tr>
<td>2012</td>
<td>21,135</td>
<td>52,959</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>48,938</td>
</tr>
</tbody>
</table>

Table 4: Flow of students from and into Singapore from 2010-2013
(Source: UNESCO’s Institute of Statistics)

In 2011, Yahoo! News reported that international students made up 18 percent of the total undergraduate intake in Singapore after being at the 20-percent mark for several years. The report also pointed out that the majority of these international students are on the Tuition Grant scheme which is meant to help them with their expenses. There are also many scholarship programmes available to international students, not all of which are open to Singaporean students (see below). This creates two problems: One, many Singaporean students have to pay the high tuition and fees to study at local universities. The inequity of helping foreign students defray their costs but making local ones pay is not lost on the Singaporean population. Two, the international students receiving the grants are made to sign a bond requiring them to work in Singapore for a period after they graduate. This aggravates the situation by reducing employment opportunities for local graduates.

According to a blog, there are 28 university scholarships offered by the government as well as private and quasi-public corporations. While foreign students can apply for all of them, only about half of the programmes are open to Singaporean students (see Table 5 below). This has given rise to genuine concern that a disproportionate amount of tax-payer monies is being spent on foreign student grants and scholarships which does not guarantee a return on the funds expended.
The government has announced that it aims to bring down the number of international students the universities take in to 15 percent of the total student population by 2015, but it remains unclear if plans to house 150,000 international students into Singapore are scrapped or simply deferred. Given that the PAP caps the number of university graduates between 20-25 percent of the labour market, bringing in students from other countries to compete with local students—even at a reduced rate of 15 percent of the student population—creates unnecessary pressure for local students.

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Table 5: Scholarships available to university students

(Source: http://furrybrowndog.wordpress.com/2011/07/07/singapore-education-scholarships-for-foreign-students-only/)
Academics: Local or foreign?

The influx of foreigners into the tertiary education system does not only affect students. The number of foreign academics recruited into the universities is also of much concern with the ratio of local academics to foreign ones extremely low. It was reported that in the political science department at NUS, for example, nearly three-quarters of the 25 faculty are foreign. Only seven are Singaporean. The situation is not better for the other schools and universities: the Lee Kuan Yew School of Public Policy has only 38 locals out of 82 faculty, NTU’s S Rajaratnam School of International Studies has 12 out of 29, and the NTU’s Wee Kim Wee School of Communication and Information has 21 of 48.

Such imbalance has been a “longstanding source of unhappiness” among local academics, and many have made their views known to the MOE. The Senior Minister of State for Education Indranee Rajah responded by saying that the ministry “encourages” the universities to hire more Singaporeans but added that the universities have a large degree of autonomy in the way they recruited their staff.

The situation was bad enough that even PAP MP Seah Kian Peng raised the issue in Parliament, pointing out that less than half of the faculty members in political science, communications and public policy are Singaporeans, adding that these disciplines are “some of the most important and context-sensitive fields of endeavour in any country”. Law professor Eugene Tan at the Singapore Management University was of a similar view; “The disproportionate presence and importance of foreign faculty members is a cause for concern.”

Another concern that local academics have is that foreign academics appointed to leadership positions hire and promote scholars that they know from their home country or institution. Eugene Tan noted that, “Academics have their own networks and sometimes, these may come into play during the hiring process. You will hear often enough complaints of foreign faculty preferring their own kind.”

The large number of foreign faculty members in our tertiary education may be due to the government’s goal of boosting the reputation of our local academic institutions. The Times Higher Education (THE) survey ranks NUS as the world’s 22nd most reputable university and third in Asia. THE uses 13 indicators that are grouped into five categories:

- Teaching: the learning environment (worth 30 percent of the overall ranking score)
- Research: volume, income and reputation (worth 30 percent)
- Citations: research influence (worth 30 percent)
- Industry income: innovation (worth 2.5 percent)
- International outlook: staff, students and research (worth 7.5 percent)
A possible reason why NUS employs such an overwhelming number of foreign academic staff is that it wants to inflate its scores in the above indicators. By importing widely published academics from overseas instead of developing local talent and training Singaporean researchers which would take a longer time, it can immediately increase its ranking in the “research” and “citations” categories. And by taking in a large number of foreign students and staff, it can score well in the “international outlook” factor.

Associate Professor Alan Chong from the S Rajaratnam School of International Studies goes even further, saying: “My impression is that many of the foreign faculty are here for the higher salaries and expatriate perks, relative to those in North America and Europe. They have no abiding interest in helping Singapore establish itself as a long-term hub for good social science research.”

For Singaporean PhD students who expressed interest in the possibility of working in Singapore, the reasons they provided for wanting to do so include: family, familiarity with culture and environment, government bond, increased opportunity of being hired, and suitable job openings.

Such an approach, while boosting the reputation of local institutions in the immediate term, produces problems for local faculty and students in terms of employment and education opportunities. It has the added danger of discouraging locals from pursuing academia as a career which results in the continued scarcity of academics in the country thus perpetuating the problem of having to rely on foreigners for our higher education.

Even establishment figures like ambassador-at-large Chan Heng Chee feels that the balance should be restored. She said: “I think universities should try harder to attract more Singaporeans into academia and hire qualified suitable Singaporeans to rebalance the numbers.”

Jack Chia and Carissa Kang, Singaporean PhD candidates at Cornell University, conducted a survey to find out why there was such a low number of home-grown academics in our universities. Chia and Kang wrote that “it seems like the problem might be a supply side issue”—that is, Singaporean academics don’t want to work in local universities. The study also found that these Singaporeans cited reasons such as lack of job opportunities or prospects and lack of academic freedom and vibrancy for not applying to local universities. Third, the survey indicated that many local PhD students studying abroad feel that universities here have a bias towards hiring foreign faculty members, echoing the views of some of the local academics currently working in Singaporean universities. In fact, an overwhelming 82 percent of the respondents said “yes” or “maybe” when asked “if they felt that Singaporean universities had a preference for hiring foreigners”. The reasons for such a perception fell into the following categories:

- obsession with world rankings and the desire to hire “big names” to produce publications, win prestigious grants, and obtain recognition on the international scene;
• inferiority complex with reference to education as foreigner academics being perceived as “superior” to locals;
• assumption that locals can be “bullied” into staying since their families are in Singapore;
• Singaporean universities not playing a proactive role in recruiting local talents studying abroad; and
• Singaporean universities not putting in enough effort to cultivating and retaining Singaporean academics who are already working in Singapore.

In this debate whether to hire locals or foreigners, Chia and Kang remind us that “Singaporeans simply cannot expect foreign intellectuals to engage politicians, lobby for social reforms, and advocate for the preservation of cultural heritage on their behalf.”

Whatever the reasons are for the lack of home-grown talent in our university teaching staff, two things are clear: One, there is a need to recruit more Singaporeans into local university faculties and, two, the current system is not doing enough to achieve this.

Are we smart?

Another area of concern with our tertiary education system is the over-emphasis on content rather than independent analysis and creative thinking. Right through a Singaporean's educational life, the focus is almost exclusively focused on one’s performance in examinations. This trend continues into the tertiary level. A blog published by NUS provides tips for its students on how to better prepare for examinations and answer the questions. It provides “last-minute revision tips” such as

• Use your revision tools (prompts, diagrams etc.) to check final facts
• Stay calm and concentrate on consolidating your existing knowledge rather than trying to learn new topics
• Scan all questions first to see what you can do
• Do those questions you know first to secure these marks
• Leave the tougher questions towards the end
• If you cannot get an answer for the first part of the working, assume the answer as X and show the method of the subsequent parts. (method is more important than numerical answer)24

This is reminiscent of the kind of ‘exam tips’ for Singaporean students in primary and secondary school. While it may prepare students to be at their performing best during examinations, it does little to enhance their thinking skills necessary for today’s world. Professor Yong Zhao of Michigan State University noted that students in Chinese universities face the same problem where the system also places great emphasis on examination results. In an ever-changing economic and technological landscape, however, is such skill the most sought after? Zhao writes in the New York Times:

...Chinese college graduates often have high scores but low ability. Those who are good at taking tests go to college, which also emphasizes book knowledge. But when they graduate, they find out that employers actually want much more than test scores. That is why another study by McKinsey found that fewer than 10 percent of Chinese college graduates would be suitable for work in foreign companies.25
The deficiencies of a system that relies on examinations as an indicator of an individual’s capability is perhaps most dramatically demonstrated in the riot that occurred in Little India in December 2013. The government depends on the practice of appointing top school performers into senior positions in the civil service as well as quasi-government organisations. Such individuals are identified through the GEP screening process when they are in primary school and groomed through their school years in special enrichment programmes. They are then offered scholarships with attractive remuneration packages and are bonded to serve with the government for a specified period upon graduation. The Singapore Police Force is staffed by these scholars at the highest levels.

When the riot exploded in Little India, senior police officers at the scene found themselves unable to control the mayhem. The ensuing Commission of Inquiry (COI) revealed that the police’s entire operational system was found wanting when it mattered most: the communications equipment malfunctioned, officers were poorly trained to handle such volatile incidents, and there was insufficient front-line officers. This led many to comment that while scholars excelled in their schoolwork, their abilities were not readily transferable to situations that required real-life decision-making. As described in Chapter 3, our scholar-officers may possess high componential intelligence (being book- or exam-smart) but lack contextual intelligence (being street-smart). Veteran journalist-blogger Seah Chiang Nee wrote that, “The [COI] has raised public disenchantment with the scholarship system, in which the brightest students are selected for leadership roles. In the early years, scholars had contributed much to Singapore’s success story. However, as problems piled up with the leaders unable to resolve some of them, credit has turned to blame.”

Another undesirable outcome of an education system overly-reliant on content knowledge and examination performance is the suffocation of creativity in our students, a development that has enormous impact on our economy. This problem is aptly summarised in the leaked US Embassy cable:

GOS (Government of Singapore) efforts to promote entrepreneurship continue to encounter a risk-averse Singaporean mindset, government domination of the economy, and discouragement of critical thinking and inflexibility in the educational system. The 2007 Global Entrepreneurship Monitor Report (GEM) showed that, among the surveyed OECD and developed economies, Singapore was consistently below the mean for all indicators of social and cultural attitudes toward entrepreneurship. For example, only 57.8 percent of Singaporeans believed that new business success was accorded high status in their country, compared to an average of 66.2 percent among all the countries in the survey, ranking Singapore 21st of 24.
Freedom from fear

Academic freedom in Singapore is another area of concern. Over the years, several dons in local universities—Dennis Enright, Christopher Lingle, Bilveer Singh, Lim Chong Yah, Chen Kang and Tan Khee Giap to name a few—have been taken to task (and even prosecuted in Lingle’s case) because the government disputed their views. Several of them had to retract what they wrote. Under such a climate of fear, academics have been reticent about speaking their minds. Such is not the environment that academe, which thrives on open debate and the free expression of ideas, can flourish. Censorship by the state and the bigger problem of self-censorship by researchers do a disservice to the students and the education system as a whole.

The most recent example of state interference in the academic life of universities is the ban on “partisan politics” or the formation of “political parties on campus” at the Yale-NUS College established in Singapore in 2013. The restriction on the freedom of association extends to societies linked to political groups. Ironically, Yale University was invited to set-up a liberal arts programme. In 2013, SDP Secretary-General Chee Soon Juan made the following statement when he was invited to speak at Yale in 2013:

And if you care enough that education at this revered institution will prepare you for a life that not just enables you to get ahead but to also improve the lot of those around you, of humanity, then you will also care that Yale University not yield on the principles of higher education on which it is founded.

You will want this proud arena of intellectual to care that it upholds its reputation of imparting not just knowledge but wisdom, the wisdom that invites an individual to enter the door of his conscience.

Such wisdom cannot be found in textbooks, you can’t score a correct answer on it in your multiple-choice test. It can only be approximated when you have the freedom to challenge authority, to question the status quo and push the limits of convention, a freedom that Yale so boldly and nobly embodies, a freedom that we have lost in Singapore.

Teachers and students, if you will not accept anything less for yourselves here in New Haven, why then do you acquiesce to a demand that will deny your counterparts at Yale-NUS that same, rich experience?

Another institution, Warwick University, was also invited by the government to set up a campus in Singapore. Unlike Yale, however, the university declined the offer because of concerns over academic freedom.
**The alternative**

The central role of tertiary education is to expose students to higher learning, research and scholarship. To achieve this, academic freedom, openness to rigorous debate and freedom of expression are required. Presently, state control of the university and other tertiary institutions make it difficult for Singapore to attain the kind of excellence that we have come to expect in top-ranked universities. To enable our academic institutions to achieve their potential of becoming reputed centres of higher learning, this paper proposes the following reform measures:

1. **Democratise university management and give academics a greater role**

   Singapore’s universities should be independent of the state. Its governing bodies should be given complete autonomy in deciding matters of the institutions’ affairs. To meet such an objective, the Education Act must be amended to unambiguously prevent government interference in university matters including, but not limited to, the appointment of administrative and faculty staff, establishment of research and coursework directions, and political activities of students and student bodies.

   As a corollary, university management must ensure openness and adhere to democratic practices in their internal governance in which academic staff members play an active and mainstream role. The governing boards, faculty deans and department heads should also be democratically elected.

   Such non-interference should extend to issues such as the grading system. Universities in Singapore currently practice the force-ranking of grades where examination papers are assessed in such a way that in any one class, professors give grades that more or less fit the bell-curve. In other words, most students will get a C grade, with fewer getting Bs and Ds and the least number will end up either getting A or a failing grade. The assumption is that, like most other patterns of human behaviour, the students’ will perform in such a way that most of them will score at or around the mean, and a minority will do either very well or very poorly. Teaching staff are encouraged to adjust the scores to fit such a Gaussian distribution curve. Many academics find such a grading procedure problematic as there are classes (especially small ones as acknowledged by NUS) where most students perform similarly in an examination and force-ranking their grades to fit the bell-curve is unfair.

   To the extent that such a policy is mandated by the education ministry, the interference should stop. The teaching staff should be allowed to work the matter out with the university leadership to find the most effective grading system for the students.

   In order that our tertiary institutions benefit from the rigours of free intellectual debate, the universities must guarantee its students the right to freedom of expression, including the freedom to organise themselves and their activities. Harvard University, one of the world’s most highly regarded university, did not attain its status by curbing the freedom of its faculty and students. In fact, its Office of the Provost explicitly states that

   The University must affirm, assure and protect the rights of its members to organize and join political associations, convene and conduct public meetings,
publicly demonstrate and picket in orderly fashion, advocate and publicize opinion by print, sign, and voice.\textsuperscript{33}

2. \textit{Scrap Tuition Grant scheme for foreign students}

Non-Singaporean students make up about 20 percent of the total number of university students in Singapore.\textsuperscript{34} About 1,700 scholarships (800 pre-tertiary and 900 undergraduate) are given to students from non-Asean countries each year to study in our universities. These scholarships amount to $14,000 for pre-tertiary students and between $18,000 and $25,000 for undergraduates. Another 150 scholarships are awarded to students from Asean countries for pre-tertiary students and 170 for undergraduates each year.\textsuperscript{35} These scholarships cost the Singaporean public $36 million each year.\textsuperscript{36} In addition, almost all non-Singaporean students receive tuition grants from the MOE in return for a bond to work in Singapore for 3 years upon graduation.\textsuperscript{37} These grants amount to about $210 million per year.\textsuperscript{38}

As the number of places in universities are limited by the government, the competition to get a tertiary education for Singaporeans is made that much more intense. The problem is compounded by the generous amounts that the state is giving out in terms of scholarships and Tuition Grants. According to blogger-activist, Roy Ngerng, 52 percent of international students are studying on a scholarship compared to only 6 percent of Singaporeans.\textsuperscript{39} It is unclear if foreign students who receive a Tuition Grant is also eligible for a scholarship. If they are, it would mean that many international students study in Singapore for free, a benefit that is rare for a local student.

As pointed out, the government provides these financial incentives to lure foreign students in order to boost the international ranking of our universities. However, such an approach does not boost the quality of instruction and research for its students. This is because a genuine quality tertiary education depends on a climate of academic freedom and the freedom of expression, both qualities of which are restricted in Singapore.

It is the quality, not quantity, of the foreign students coming to study in Singapore that is important. Good universities will attract good and, equally important, fee-paying students. There is no necessity to spend so much public funds to attract foreign students. These funds would be more effectively allocated to fund local students.

The SDP’s plan will abolish the Tuition Grant scheme for foreign students where financial assistance is used indiscriminately to attract foreign students. With the revamp of our tertiary education through measures proposed in this section, Singapore’s universities will rise in our global reputation and be able compete with top universities from around the world, thereby attracting high-quality, fee-paying international undergraduate students.

3. \textit{Introduce interest-free student loans and do away with state scholarships}

The government absorbs most of the cost of primary, secondary and pre-university education for Singaporeans. Tertiary students, however, pay a large portion of university tuition and fees which presents a financial challenge for students from lower-income households. Many cope by juggling work and studies, while others postpone or even
give up their university education.

On the other hand, scholarships which carry large monetary value, are awarded to high-achieving undergraduate students. As pointed out in previous chapters, the current education system favours children from the higher-income families while making it more difficult for pupils from lower-income ones to progress. By the time students enter secondary school, they would have been identified as ‘stronger’ or ‘weaker’ in their studies with those in the former category placed in enhanced programmes and fast-tracked to tertiary education. A disproportionate number of these students come from the wealthier segments of society. A good example is PM Lee Hsien Loong who was given the President’s Scholarship and Singapore Armed Forces (SAF) Overseas Scholarship. Lee’s brother, Lee Hsien Yang, was also awarded the SAF Overseas Scholarship. The scholarship is worth much in monetary terms and Singaporeans question the wisdom of giving such awards to those like the Lees who can well afford the expenses of tertiary education.

The SDP’s plan will abolish the award of state scholarships to undergraduate students. In its place will be an interest-free student loan scheme which will be available for all Singaporean students accepted into local universities and approved overseas universities. The loan quantum is limited to the amount of university fees. The scheme will not cover other expenses such as living costs and the cost of textbooks. However, assistantships that provide stipends to cover school fees and living expenses will be made available for deserving students pursuing graduate programs.

Repayment of the loans commences when the graduate earns an income and will take place according to the following schedule**:

<table>
<thead>
<tr>
<th>No. of years following the drawing of a graduate’s first income</th>
<th>1 to 2</th>
<th>3 to 4</th>
<th>5 to 6</th>
<th>7 to 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of repayment of loan</td>
<td>25</td>
<td>50</td>
<td>75</td>
<td>Full</td>
</tr>
</tbody>
</table>

4. *Train and nurture local academics*

The current imbalance of local and foreign academics can be resolved by the universities given complete autonomy to hire faculty members. Apart from amending the Education Act, all local universities will be encouraged to develop their own policies to ensure that freedom of discovery and intellectual will become the cornerstone of their advancement. Such a guarantee will attract genuine talent and top researchers from around the world.

In addition, with abolition of the Global Schoolhouse project and the Tuition Grant scheme for foreign students, the number of tertiary students will be more manageable and there will not be pressure to hire more foreign academic staff than absolutely necessary.

Researchers point out that, “Oftentimes, a foreign faculty member is hired not because

** In view of the not inconsiderable opportunity cost, the scheme will be monitored to see if students from well-to-do households and not financially dependent on such loans are taking them up and, if necessary, adjustments to the scheme will be made to discourage such students from taking up the loans.
the university prefers foreigners, but simply because no Singaporean has the matching research interests to apply for the position in the first place.”40 They propose that the hiring process be made more transparent. Such an objective can be achieved under the Talent Track Scheme described in our population paper *Building A People: Sound Policies For A Secure Future*.

Singapore’s local academic talent must be nurtured and trained as they will, in the long run, be the intellectual yeast that will propel Singapore into the forefront of academe.

**Conclusion**

Through the years, the Singapore government has made many changes to the tertiary education system. Sadly, however, many of these changes have been carried out in a piecemeal and confusing manner without a firm sense of what education, especially education in the present age, is. The strategy of turning our universities into a income-generator for our economy while continuing to deny academic freedom will not enhance our reputation as an educational powerhouse. Worse, it will continue to place Singaporean students at a disadvantage while maintaining a mediocre system of higher education.

On the other hand, the alternative policies that the SDP proposes in this paper will advance our tertiary education system to genuinely competitive levels on the global stage. More importantly, it will provide generations of Singaporeans with an education worthy of our place in this world.
CHAPTER 7

SPECIAL NEEDS EDUCATION
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The education system in Singapore must include education for students with special education needs (SEN). This sub-population of students include those with various disabilities such as Autism Spectrum Disorder (ASD), dyslexia, visual or hearing impairment, Attention Deficit Hyperactivity Disorder (ADHD), dyscalculia, dysgraphia and physical disabilities. These children are often unable to participate in activities undertaken by the general population and their quality of lives will only deteriorate if society does not intervene to help them.

One way that SEN children can be assisted and brought into mainstream society is through education. For children with special needs, the quality of education, especially during their pre-school years will have a significant impact on their intellectual and social development in later school years as well as in their adult lives.

For Singapore to become a truly inclusive society, we must strive to broaden our education system to include and cater for students with special education needs. In order for them to be integrated into our community and enjoy the quality of life that most of us do, our schools must be designed so that their needs can be met. Such an approach will also lessen the future costs to society as these persons can be economically and physically independent. Without adequate and proper educational opportunities, these students will find it hard to assimilate into mainstream society and will have difficulty in finding employment in their adult years, making them dependent on the state.

Compulsory education

In 2003, the government passed the Compulsory Education Act requiring children born after 1 January 1996 to be enrolled in a primary school. The Act does not, however, extend to children with disabilities. Special education in Singapore is still spearheaded by Voluntary Work Organisations (VWO) administered through the National Council of Social Service (NCSS). These children are enrolled in the Early Intervention Programme for Infants and Children (EIPIC) programme which provides educational and therapy services to children with physical, sensory, and intellectual disabilities. Currently, there are 10 VWOs running 14 EIPIC centres throughout the country.

Given that it is not compulsory for special needs students to attend schools, these children’s
education are left entirely to their parents who are often unable to afford to send them to school. Also, the fact many children in this category are helped by VWOs indicates the governments unwillingness to provide equitable education for such students. It is a reminder that PAP continues to operate on Lee Kuan Yew’s philosophy of channelling state resources to the elite of society while cutting back on segments of the population that Lee regards as economically unproductive. While the state generously funds programmes such as the GEP, it outsources the education of special needs students to VWOs. These organisations often work under tight budget constraints and, given their status, have greater difficulty in attracting qualified teachers than mainstream schools.

“We have no special needs children. Just children.. with special needs.”
- Uwe Maurer

Compare our system to those in other countries. In 1997, the US amended the Individuals with Disabilities Education Act (IDEA) to ensure that “once and for all children with disabilities have a right to be in the classroom”.2 In Japan children, including those with disabilities, are required by law to attend school once they reach the age of 6 years.3 Finland ensures that all of its students, with and without disabilities, have the support they need to succeed in school. In 2010, nearly a quarter of school students in Finland received extra instruction from a special needs teacher in the subjects in which the student needed help. Of this group, 12 percent had a speech disorder, 40.5 percent had difficulty in reading or writing, 23.7 percent received help for learning difficulties in mathematics, 9 percent for learning difficulties in foreign languages, 5.5 percent had emotional disorders; and 8.9 percent for other learning disabilities.4 Finnish schools have well-trained staff and a well-developed system to ensure first-rate support for their SEN students:

Special education teachers, are important in the process of diagnosis and intervention, but it is not up to them alone to identify students. Each school has a group of staff that meets twice a month in order to assess the success of individual classrooms and potential concerns within classrooms. This group, which is comprised of the principal, the school nurse, the special education teacher, the school psychologist, a social worker and the classrooms’ teachers, determines whether problems exist, as well as how to rectify them. If students are considered to need help beyond what the school can provide, the school helps the family find professional intervention.5

The more we get together

In 2005, the MOE introduced the Training for Special Needs (TSN) programme which requires 10 percent of teachers in general education schools in Singapore to undergo training for special education. Several regular schools now take in special needs students.

<table>
<thead>
<tr>
<th>Disability</th>
<th>No. of mainstream schools supporting the disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hearing Impairment</td>
<td>2 secondary schools</td>
</tr>
<tr>
<td>Visual Impairment</td>
<td>4 secondary schools</td>
</tr>
<tr>
<td>Physical Disability</td>
<td>59 primary and secondary schools</td>
</tr>
<tr>
<td>Dyslexia</td>
<td>All primary schools and 20 secondary schools</td>
</tr>
<tr>
<td>Autism Spectrum Disorder</td>
<td>20 primary schools and 12 secondary schools</td>
</tr>
</tbody>
</table>
All schools now have a core group of TSN teachers to support students with mild SEN. Presently, 10 percent of teachers in primary schools and 20 percent of teachers in secondary schools have undergone the TSN programme. In addition, MOE deploys Allied Educators for Learning and Behavioural Support (AEDsLBS), dedicated to helping students in class with mild SEN such as dyslexia, ASD and ADHD. Currently, all primary schools have been staffed with at least one AED(LBS) to support students with mild SEN. Some schools are also equipped with facilities and/or programmes to support students with selected special needs such as hearing impairment, visual handicap and students with physical disabilities.\(^5\)

Despite these measures taken by the government, many special needs children continue to find themselves marginalised in the education system. In the mainstream schools, teachers find it difficult to cope with such students. They highlight the large class size as a problem when they have special needs students to take care of. Teachers are already overburdened with classes of 40 students even without special needs pupils. Students with disabilities need added attention and resources which with their over-stretched workload make it difficult for teachers to cope.\(^7\)

**Punishing disability**

Because of the present arrangement where special education is administered by multiple agencies (the government calls it ‘Many Helping Hands’) there is a lack of shared quality standards for programmes conducted in the various VWOs as well as in the regular schools. The different standards in the qualifications and specialisation of teachers/therapists and programmes in the various schools make the education of special needs children sub-optimal.

Moreover, there is no agreed standard among the schools when it comes to assessment, admissions, and curriculum. As a result VWOs have developed their own life-skills training curriculum for children with disabilities which are not consistent from school to school. This affects the quality of training and education for the students. It also makes the education pathways of students with SEN unclear and without any clear links to post-secondary education or employment opportunities. Standard levels of support for special needs students also vary among mainstream schools. A study on special education in Singapore found that “Few [regular schools], if any, are able to support students with learning disabilities, hence limiting the latter’s options for further studies.”\(^8\)

Although various initiatives have been proposed to remedy these problem areas by the MOE, the situation has not shown significant improvement. The concerns cited above is, perhaps, best summarised in the letter below. It was written in 2014 by parents of a child, Daniel (not his real name), who was diagnosed with ADHD.\(^9\) Eleven-year-old Daniel faces a disciplinary hearing for pushing a classmate as well as other instances of misconduct. The names of those involved in the matter have been omitted and the letter edited for brevity:

> To the Principal, Disciplinary Council and Teachers concerned.

> Dear Sir/Madam,
We, the parents of Daniel, would like to present the following factors for consideration at the hearing:

1. The incident of Daniel pushing his classmate

   We are sorry and upset to hear about what happened. We have spoken to Daniel about it and he admits to being sorry that he did it. He told us, the day after the incident, when his friends came around to taunt him, he told them that he knew that what he did was wrong and that he was sorry about it. He admits he has no clear reason for doing it. He said he will apologize and make amends with his friend.

   We do not condone his action, but wish to highlight that there was a history of his friend calling him names. This could be an instigating factor playing in the back of his mind.

   Daniel may seem like a bully in this instance, but it’s a boys’ school and rough play happens. He himself has also been the victim many times. Instances where he was hurt include the following:

   • He was sexually abused in P3. The boy came up and started stroking and squeezing his private part and he pushed the boy away. In return, the boy gave him such a hard push that he fell and hit his head on the ground. That part of the head that hit the ground became swollen. We had to take him to the doctor. Later that night he developed a fever. But the teacher-in-charge did nothing after the incident. I (mother) had to call him 3 days in a row to find out whether he had called the parents of the boy, just to find that he hadn’t even called or given the boy a feedback form. Apparently, Daniel was not the first person getting abused by this boy. Some other boys, who shared the same school bus, were also complaining that he would always touch their private parts. After that incident, for a month, Daniel’s moods would swing from being emotional, crying for no reason to aggressive screaming. The teacher suggested sending him to the counselor and I agreed. But the counselor only made matters worse. I (mother) was so shocked that she told my son, “Your mother wants you to come, what’s your problem”? That made him more defensive and unwilling to talk!

   • Just 2 weeks ago, he was attacked by a boy who hit him with a chair and the back of his legs were blue black for a week.

   • Just a few days ago, a boy, who was angry with someone else, but because Daniel was in the area, grabbed him and pinned him down

   • We can go on and on about instances that he was attacked, hurt or had been the victim.

2. Daniel was diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) in
May 2013. He is undergoing Occupational Therapy at the Child Guidance Clinic (NBC), Institute of Mental Health. He is also seeing a private therapist who specialises in ADHD children.

Dr. Russell Barkley, the leading specialist on ADHD states, “A study of the literature revealed that inappropriate behaviours were generally not displayed deliberately. Often, students with ADD/ADHD are not aware of the impact of their behaviours on others. They do not recognize the behaviours they exhibit are annoying and distracting.”

**Children with ADHD do not intentionally behave wrongly**, they are unaware of how their behaviours affect others, and so often, they cannot understand why they are being punished. (Emphasis original)

3. What is the school doing to help Daniel and ADHD children like him?

He was diagnosed with ADHD in February 2013 and the school was informed of his diagnosis in May 2013 as soon as the results were out from the psychologist.

May we ask, what assistance has the school given to Daniel in relation to his condition? Why wasn’t any AEDs (LBS) assigned to counsel him, or consulted for this disciplinary hearing? Where are the TSNs and their strategies to support ADHD students?

Children with ADHD need accommodations to succeed in school. They need encouragement, positive connections with teachers, better understanding from his teachers to have positive self-esteem and to be better learners. They need assistance and accommodations so that the playing field will be levelled for them and they have a chance of success, along with their peers.

Every time an incident occurs Daniel is given a lecture, a scolding, prevented from going for recess, dragged to the vice-principal’s office—all punitive measures.

In April 2014, a teacher came up to Daniel and told him that the disciplinary council is considering suspension for him. That was not professional. The council should talk to each of the boys separately, then call and inform the parents. The teacher should have the discretion to know that this information should have been shared with his parents and not Daniel, especially when no conclusion to the issue has been reached yet. His teachers could have attempted to counsel him, encouraged him to express his views, and given him a sense of security that his views would be understood. His teachers could have helped Daniel by giving him better alternatives that would allow him to express his feelings of frustrations or anger in safer and more appropriate ways. The teachers did none of that. Is it that the teachers could not do any of that because the teachers did not have the skills or knowledge to deal with his condition?

When children with ADHD’s needs are not met and when they get increasingly frustrated at what they perceive as persecution by the teachers, they become resentful, angry, and even ashamed of themselves. What happens is that our child’s self-esteem is affected and he begins to think badly of himself and that affects the
development of his self-image. This is so very detrimental to my son’s ability to learn. Last year, prior to his ADHD-diagnosis, constant threats to cane or punish him led him to shut himself out from the external world, and his grades suffered. He was stone-walling to our enquiries. However, with therapy, he has come out of his shell and even managed to get better grades (he was given an Edusave Good Progress award at the end of last year).

All these factors increase symptoms of ADHD and Daniel is placed in an environment which increasingly triggers his ADHD symptoms. And the more the environment triggers his symptoms, the more Daniel acts out, which leads to punitive reactions by the teachers. Daniel continues to be increasingly resentful and the numbers of incidents of acting out will increase because there is no appropriate intervention by the teachers. And again, we repeat, there is no appropriate interventions by the teachers because the teachers do not have the skills or the knowledge. It is a vicious cycle and that vicious cycle is detrimental to the healthy development of my son and to others like him.

How much do teachers here know about ADHD? We, the parents of some ADHD boys in the schools have offered resources to the school several times but our offers were declined. We even wanted to send a professional ADHD therapist to come and speak to the teachers about ADHD, for free, and even that was declined by the principal.

The Snr Educational Psychologist from the Child Guidance Clinic (NBC), Institute of Mental Health, Singapore contacted a staff member at the school with pointers on 5th September 2013. She was also open to queries in the event that certain of Daniel’s behaviour needed to be discussed. Since she is one of his psychologists, why was she not contacted and questioned about the appropriate approach to his case?

Research shows that “Teacher knowledge is possibly the most significant factor in dealing with students with ADD/ADHD (Flick, 1998). Dunne (2002) noted that teachers who understand the difficulties of students with ADD/ADHD can better assist the students within the classroom. Teachers, who are open to adjusting for the problems, experience more success in dealing with such behaviours. Acquisition of ADD/ADHD knowledge leads educators to focus on the issues using a positive approach.”

It is clear that teachers play one of the most important role in decreasing symptoms of ADHD and whether our son succeeds, but in order to do that, the teachers must understand the condition, must provide the accommodations, do adjustments, use more positive approaches but that is not happening, and that is going to be an obstacle to our son and others like him.

Research also shows that it is absolutely pivotal that schools work with parents so that our children can do well in school but that is also not happening. It appears that the only time there is communication between the teachers and us is when they have a complaint about Daniel. There is no feedback, updates, no nothing. How can we as parents then know what we should do to help Daniel at home? If we get consistent,
Educating For Creativity and Equality

systematic, feedback about Daniel, then we know what adjustments we should do for Daniel at home. If he is doing better and we are informed, then we can increase whatever we are currently doing with him at home and we can discuss that with his teachers in school. In turn the teachers may want to do the same so that there is uniformity and stability in Daniel’s environments, and that is so important to any person’s development. If Daniel is manifesting inappropriate behaviour, we can also do the adjustments at home. However, right now, we know nothing. There is no proactive intervention from the school, just reactive responses from the teachers and that does not help Daniel, his development, his self-esteem, and learning.

According to the US National Institute of Mental Health (NIMH), research appears to be conclusive that 5% of school-age children or one child in each classroom of 25 to 30 children will likely have ADHD. When these students are told to cease talking, remain still, be attentive (particularly with worksheets), and stay on task, difficulty usually surfaces. Tasks such as the ones previously mentioned do not come easily for students with Attention Deficit Hyperactivity Disorder. Thus, ADD/ADHD seems to be a significant problem and must be addressed in all school districts, on each campus, and by every teacher.

We feel that if the school is inadequately resourced to manage ADHD children, perhaps it should consider referring cases like Daniel to the MOE for transfer to schools that the MOE is better equipped to deal with ADHD students.

Signed,
Daniel’s parents

In another instance, a primary school student was having difficulty with his work. His parents suspected that he had a learning disability and repeatedly brought this to the attention of his teachers. However, the school assured them that there was nothing wrong with their son, implying that he was simply a weak student. Nonetheless, the parents insisted on consulting the school psychologist but were told that they had to wait between six to nine months for an appointment. They were advised to “go outside” of the school to seek help. Upon testing, the pupil was found to have mild ADHD and started seeing a therapist which typically costs upwards of $100 per session.

These instances demonstrate that support for students with SEN in Singapore is still in its rudimentary stage.

The alternative

Despite the measures put in place, the education system is inadequate to cater to the needs of such children. To remedy the weaknesses of the current system and advance special education in Singapore, the SDP’s education plan includes the following measures:

1. The government assumes responsibility

Under SDP’s education policy, the government will undertake the important role of providing education for students with SEN. If education of our students without
disabilities is important enough that the state does not outsource it to VWOs, why should education for students with SEN be any different? The government is the only body that has sufficient resources to organise the education system to include special needs students in a meaningful and effective manner.

Such a position is shared by experts in the area. A special education consultant advised: “Stop leaving the provision of special needs education to the voluntary sector. Government needs to take ownership of it...”\(^{11}\) Another educator said that “...Ministries should stop trying to pass the buck to each other due to their own limitations. Same energy would be better spent on objectively identifying the Ministry most suited for the role...focus on finding viable and sustainable solutions for the families.”\(^{12}\) A report by a committee reviewing special education in Singapore stated that “it is of the view that the country must undergo a fundamental paradigm shift on who should drive the education of these children. It supports the strong ground notion that education of such children should not be viewed as charity and that Government should take more direct ownership instead of the social service sector through NCSS.”\(^{13}\)

The SDP proposes the establishment of the Council for Special Education (CSE) that would be mandated to review and revamp the sector to take the lead in integrating the various services which provide education for special needs students. Members of the CSE would comprise senior personnel and other experts from the MOE and Ministry of Health (MOH). The current role of VWOs would be gradually phased out and qualified experts, teachers and therapists in these organisations would be co-opted into the mainstream education system. Only children with severe SEN should be supported by state-funded specialised schools instead of regular schools.

Main-streaming children with SEN into regular classrooms will enable these students to interact with students without disabilities and learn important skills. The converse is also true: Regular students will also be exposed to SEN students that will encourage compassion and empathy.

The concern that special needs pupils will slow down the education of students without SEN will be addressed by the reduction of class size (see below) where teachers will have more time to concentrate on the students under their care.

2. *Amend the Compulsory Education Act*

A study showed that 98.2 percent of parents and caregivers of children with SEN felt that all children should attend school and 95.9 percent believed that education should be made compulsory as “every child has the right to be educated.”\(^{14}\) Nearly 70 percent feel that the waiting list in special schools are too long.\(^{15}\)

These problems that parents of special needs children face can be solved by the government undertaking to provide education for all children in Singapore and not
discriminate against those with disabilities. The SDP plan will include amending the Compulsory Education Act that will mandate children with SEN to enrol in schools and kindergartens. This will ensure that children with SEN will not be neglected and that they receive the necessary support for their development. If education for special needs children is mandatory, the government will also have to ensure that funding for special education is adequate.

3. Centralise special education services

As pointed in the preceding section, there is presently a lack of consistency and agreed-upon standards in the various special education programmes provided by the VWOs and regular schools. A special needs educator at a VWO pointed out that there are “Differing and inconsistent performance standards...lack of consistency of a basic framework, process of needs assessment up to outcome recording and tracking...Support at pre-schools outside is also inconsistent with little agreed upon standards...” 16 A special needs educator at a VWO pointed out that there are “Differing and inconsistent performance standards...lack of consistency of a basic framework, process of needs assessment up to outcome recording and tracking...Support at pre-schools outside is also inconsistent with little agreed upon standards...” 17 Researchers Tam, Seevers, Gardner, and Heng wrote that “many general education teachers in Singapore are not equipped with the knowledge and skills to identify students with special needs in their classrooms.” 18 Nearly all parents of children with SEN feel that there needs to be more trained professionals in schools to provide the necessary support for their children. 19

The lack of a proper standard of special education programme and adequate training for teachers can be resolved if the CSE is tasked with integrating special needs education with mainstream education. The streamlining of SEN, instead of the current ‘Many Helping Hands’ approach, will ensure that the adequacy of the TSN, quality of instruction in the classroom, level of expertise, identification and assessment of children with disabilities is upgraded to meet international standards.

In centralising the special education programme, educators and teachers must be included in the review and planning. Issues regarding allocation of funds and school
resources, policies regarding assessment and admissions, curriculum planning, grouping of disability types in a class, and training and development of teachers and other care professionals should be decided in consultation with teaching staff, both general and special education.

4. Reduce class size

The SDP will also reduce class size from the current teacher-student ratio of 1:40 to 1:20. This will allow teachers to concentrate on the development of their students, including children with SEN in their midst. Such a measure is discussed in detail in Chapter 5.

5. Collaborate with stakeholders

General education teachers must work in collaboration with special education teachers and parents in a constant effort to tailor programmes and assess the progress of students with SEN. Each school will have an administrative unit that will coordinate this effort to facilitate communication between the interested parties on a frequent and regular basis. Both teachers and parents must be educated to appreciate the necessity of such collaboration and the integration of SEN children into mainstream schools.

In addition, MOE must coordinate efforts for research institutions to collaborate and communicate with teachers and parents of pupils with SEN to yield information useful to special education practices in Singapore. Such evidence-based approach would help to refine policy-making to better support the effort to include special needs children in our mainstream education system.

**Conclusion**

When Lee Hsien Loong first became Prime Minister in Singapore in 2004, he said:

> Every society has some members with disabilities. How the society treats the disabled, takes care of them, and helps them integrate into the mainstream, reflects the kind of society it is. We want ours to be a society that cares for all its members; one that does not ignore the needs of those who are born or afflicted with disabilities.  

Unfortunately, after 10 years many children with special needs are still left out of mainstream education in Singapore. With the government unwilling to assume responsibility in providing education for these children in regular schools, VWOs have had to shoulder much of the support for these pupils. As a result, the quality of special education leaves much to be desired. The only way that we are going to be a truly inclusive society, one that does not discriminate against children born with disabilities, is for the government to acknowledge these children’s right to a proper education and take steps to build a system that provides quality education for all. Only then can our education system be world-class.
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