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Curriculum in Singapore

Viniti Vaish

Introduction

Singapore, a highly globalized and first world country, has invested heavily in its education system. Since the country has few natural resources the development of human capital through the national school system is an important mandate of the government. According to Sharpe and Gopinathan (2002), the school system has been through major changes in style of management since Singapore's independence in 1965. At that stage of nation building, Singapore was targeting basic indicators of development like trying to achieve a high literacy rate, reduce the drop-out rate, and set up a curriculum that would aid the economy of an emerging country. At that stage, Singapore had an efficiency-driven school system.

However, the centralized, standardized, top-down system, with its emphasis on socialization and rote learning, the practice of tracking, and the quiescence of students—all of which were crucial in developing the state's agenda of economic growth and nation building—have become impediments. In a postindustrial moment, policy makers agree, a "radical transformation of education is required if schools are to play their part in producing the creative, autonomous and flexible work force required to compete in value-added markets" (Sharpe and Gopinathan, 2002, p. 152). Thus in the 1990s, Singapore moved from an efficiency-driven to an ability-driven school system. The key policy initiatives for this change will be discussed in this chapter.

The main driver for reform in Singapore's education system, especially the curriculum, is the economy. This is not terribly surprising as, Kress (2000) points out, "The curriculum has always had a more or less direct relation to the economy" (p. 141). The government of Singapore regularly reminds its citizens that this country does not have the natural resources of larger land masses. Thus to keep the economy roaring and to maintain a high standard of living, education is far more important than in other larger countries. The changes that have been made to the curriculum in Singapore like the changes suggested by Thinking Schools Learning Nation, or those mandated by the English language syllabus, are mainly the government's attempt to create a work force which will be ready for the twenty-first century knowledge economy.

These changes in curriculum are not unique to Singapore. According to Kress (2000), developed countries are now thinking about "education for instability." He means that in the twenty-first century, the world is a site for social and economic instability unlike previous eras. In the past, a person could be educated for the stabilities of well-defined citizenship and a static economy. Today, the student needs to be ready for a world where he/she will require creativity, innovativeness, and adaptability to deal with uncertainty. Referencing a flyer from the Islington Summer University, Kress shows how a university is presenting itself as a site of fun and learning while at the same time offering a buffet of summer courses which are more like activities rather than formal learning in a classroom. Kress concludes that the curricula of the future will be motivated not only by the economy but also by multiple identities and new sites of learning like cyberspace and new motivations.

The Status of Singapore's Education System

Singapore's education system is currently supposed to be one of the best in the world according to the results of international tests and the latest McKinsey Report (Mourshed, Chijioke, and Barber, 2010). The authors of the McKinsey Report list 20 school systems that they think have shown sustained improvement on the basis of international test results and a database of 575 reform interventions made across these school systems. Mapping the progress of these school systems from 1985 till 2010, the report shows that Singapore comes out on top followed by Hong Kong and South Korea. The current performance rating of Singapore is "great" on a scale of poor, fair, good, and great.

The other school systems in the "great" category are Hong Kong, South Korea, Saxony, and Ontario.

Singapore's results in the 2006 Progress in International Reading Literacy Study (PIRLS) has been exemplary. Inaugurated in 2001 and conducted every five years, PIRLS is the International Evaluation Association's assessment of students' reading achievement at the fourth grade level. In 2006, PRILS was conducted in 40 countries. The test assesses a range of reading comprehension processes with two foci: comprehension of literary texts and comprehension of informational texts. In 2006, the Russian Federation, Hong Kong, and Singapore were the top performing countries. It is important to note that in Singapore, nearly all children are bilingual and not all of them have English as their dominant language. Since the PIRLS in Singapore is conducted in English, it is noteworthy that Singapore is a top-performing country.

History of Organizations Involved in Curriculum Development

The Curriculum Development Institute of Singapore (CDIS) was formed in 1981. In the 80s, CDIS prescribed a curriculum only for primary and lower secondary levels. For the O and A levels of schooling, the syllabi prescribed by the Cambridge Examinations Syndicate (CES) was used in Singapore. Every 10 years a committee was set up to scrutinize syllabi being used in Singapore, as compared with syllabi in other countries, especially the United Kingdom (Toh, Yap, Lee, Springham, and Chua, 1996).

Subject-specific Aspects of Singapore's Curriculum

Discipline-specific curricular concerns in Singapore include concerns about differentiating the curriculum by ability (Ho, 2012), connecting the curriculum with real world experiences (Toh, Yap, Lee, Springham, and Chua, 1996), and problematizing the link between the economy and the curriculum (Chew 2007)). Exploring the nature of curricular content in social studies, Ho (2012) found that the curriculum differs significantly in content for the three main ability groups in Singapore: the elite Integrated Program (IP), the mainstream Express and Normal Academic track (E/NA) and the vocational Normal Technical (NT) track. Only the best students are allowed to join IP offered by 11 elite secondary schools. Only IP students are offered a rich curriculum in social studies with alternative forms of assessment like project work and opportunities for social action so that they can be groomed for future leadership roles. The author comments that "In the current Singapore system, access to citizenship knowledge and skills is determined largely by academic achievement because of the ruling party's belief in democratic elitism and the allocation of educational resources by merit" (p. 422, Ho, 2012). However, the author also suggests that the assumption that academically high achieving students will necessary be the only types of students who can undertake leadership roles is flawed. Consequently Ho (2012) recommends that all students regardless of ability should be given equitable access to civic learning opportunities so that they can define for themselves their roles as democratic citizens.

Baildon and Sim (2009) conducted a research study with the collaboration of in-service teachers of Social Studies. Social Studies was introduced in 2001 as a compulsory and examinable subject at the upper secondary level for students in the age group 15–17. "As an integrated subject that includes elements of history, economics, political science and human geography" it "focuses on national, regional and international issues central to the development of Singapore as a nation" (p. 409). Baildon and Sim's study is about the dilemma of teachers regarding teaching critical thinking in a subject like social studies given the cultural and political environment in Singapore. Critical thinking skills involve "identifying a problem and its assumptions, and making inferences, using inductive and deductive logic, and judging the validity and reliability of assumptions, sources of data or information (p. 410). However, in Singapore, critical thinking is presented in the social studies syllabus as a list of discrete skills along with assessment objectives that emphasize the demonstration of these skills.

Baildon and Sim (2009) raise an interesting issue regarding the curriculum of Social Studies. They document the attitudes of teachers to "OB" or "out of bound markers." This is a term that the People's Action Party of Singapore coined in 1991 to refer to topics that are supposed to be off limits in public discourse. Baildon and Sim found that in-service teachers were divided in their opinion regarding OBs. They find for some teachers "OB markers, whether real or perceived, operate to create fear and a 'pragmatic' stance, in which teachers have to be careful not to cross into certain, albeit ill-defined, areas of public discourse" (p. 415). For other teachers OB markers are a problem because they find that this goes against the grain of critical thinking especially in a subject like social studies where students are supposed to discuss issues regarding the nation like immigration, multiculturalism, race, and religion.

There is substantial literature on the English curriculum in Singapore as English is the medium of instruction and Singapore's economy is supposed to thrive on the fact that this is an English-speaking nation (Kramer-Dahl, 2008; Cheah, 2002). Discussing the enactment of the 2001 English language syllabus, Kramer-Dahl (2008) finds much that is creditable about this syllabus, a view also held by Cheah (2002). Cheah (2002) comments that the 2001 English syllabus is forward looking in that it introduced text types to contextualize the teaching of grammar. At the same time, this syllabus has a back-to-basics approach because it recommends the teaching of phonics to beginning readers and the also the explicit teaching of grammar, aspects that were missing in the 1991 syllabus. Most importantly, the 2001 syllabus lays emphasis on literacy and not merely

language ability, which stems from a concern that Singaporean children were weak in reading and writing skills.

Kramer-Dahl comments that "The curriculum, along with the kind of pedagogy the syllabus endorses, promises far better than its predecessors to anticipate the literacy demands, the discourses, practices and genres, which young people face beyond English and school" (p. 87). The syllabus instructs teachers to develop higher levels of literacy in their students through self-access learning and use of materials outside the text book. Its emphasis on flexibility and adaptability envisions a curriculum that promotes a wide range of literate activities. However, there is a severe misalignment in the way that this syllabus is enacted. The two secondary school teachers that Kramer-Dahl observed for this study did not feel that their students were capable of dealing with the 'higher order literacy skills' that the syllabus was trying to inculcate. For instance, though the syllabus is based on text-types and the students are supposed to experiment with diverse genres, the teachers encourage their students to write only narrative essays as those are the easiest.

I have mentioned in the introduction that curricular changes in Singapore are linked to the economy. Kramer-Dahl (2004) illustrates this through a discussion of grammar courses for English teachers that were initiated in the 1990s and are still in existence. In mid-1999 there was a flurry of articles in *The Straits Times* about the low level of grammar amongst English teachers causing pupils to speak in "Singlish," a colloquial variety of English. Kramer-Dahl links this discourse of crisis with the Asian economic crisis of the late 1990s in which some East Asian countries like Indonesia suffered from a severely depreciated currency. During this period, the University of Cambridge Local Examinations Syndicate was hired by Singapore's Ministry of Education to design a 60-hour grammar course to prepare teachers for the new English Language Syllabus of 2001.

According to Kramer-Dahl (2004) the problem with the grammar course for English teachers is that it is top-down, prescriptive, and does not ensure that what teachers learn in this course will be internalized in their own speech. "For the government, what had become top priority was to stem what it saw as a tide of linguistic, and by extension economic, deterioration, and the best way to do that was by a back-to-basics, normative language curriculum" (Kramer-Dahl, 2004, pg. 80).

Finally, Koh (2006) analyzes the introduction of National Education (NE). The idea of National Education was first announced by the then Prime Minister Goh at the Teachers Day Rally in 1996. It was officially launched in 1997 as part of the Thinking Schools Learning Nation education policy, which is discussed in detail in the next section of this chapter. Prime Minister Goh emphasized that the reason for introducing NE was that young Singaporeans, especially those that were born after independence, knew very little about Singapore's history. NE is not taught as a separate subject but is fused into social studies, civics and moral education, history, geography, and the "general paper." At the primary level, the goal of NE is to "Love Singapore," at the secondary level, it is to "Know Singapore," and at the junior college level, it is to "Lead Singapore."

According to Koh (2006) Singapore has implemented NE because it finds that globalization, though necessary for the economy of this small country, also has shortcomings, in that globalization is eroding the Asian ethos and values of the youth. Though Koh agrees that citizenship education through a subject like NE is important, he takes issue with the current curriculum because:

> NE has not responded to what globalization means for the construction of youthful identities. There is a complete disregard for 'who the young are and what they might become' (Kenway and Bullen, 2005, p. 32) and their agentive role of constructing their preferred identities, whether this is inspired by their consumption of global/regional popular cultural forms and practices or transient youth subculture practices. (Koh, 2006, p. 363)

What Koh means is that the NE curriculum is organized in an essentializing way which leaves no room for hybridity and liminality. Koh also quotes the Singaporean political commentator Cherian George who says that the NE curriculum is based on the PAP's (the ruling political party of Singapore) version of history. "Because NE reflects a dominant political ideology, it is argued that the narrow conception of its syllabus design may produce conformist thinking" (Koh, 2006, p. 367).

Policy Initiatives

The most important policy initiative in Singapore's national school system was to introduce English as the medium of instruction and teach the mother tongue as a second language, a policy recommended by the All-Party committee on Chinese Education in 1956 (Koh, 2004). There are two main implications of this policy initiative: achievement and multicultural education. In terms of achievement, it is a challenge for the school system to bring the proficiency of bilingual children from diverse ethnic and socio-economic backgrounds up to the level that they can compete in the Primary School Leaving Examination (PSLE). To help children with weak reading skills in English, Singapore initiated the Learning Support Program in the early 1990s. This early literacy intervention uses both phonics and whole language approaches to reinforce reading skills in English. Pupils are selected for the LSP through a diagnostic test that they take when they enter primary school in grade 1. They exit the LSP in grade 3 or earlier if they become proficient readers (Vaish 2012). The curriculum for the LSP closely follows that of the mainstream English classes so that the pupils get maximum support. For instance, the Big Books used in the mainstream class are also being used in LSP.

According to Bokhorst-Heng (2007), Singapore inculcates multicultural education in schools through its bilingual education policy: "'Multicultural education' is not a phrase used in Singapore. Instead, multiculturalism is realized through the bilingual education policy" (p. 638). Bokhorst-Heng comments that there is a clear link between language and values. These are considered discrete between English and the Mother Tongue. Whereas English is the language of technology and globalization that has made Singapore one of the most prosperous countries in the world, the mother tongues are symbolic links to the great cultures of India, China, and Islamic communities.

One of the key initiatives of the Ministry of Education is Thinking Schools Learning Nation (TSLN), which has been analyzed from the point of view of pedagogy (Curdt-Christiansen and Silver, 2012) and curriculum (Koh, 2002, 2004). TSLN was envisioned in 1997 by Prime Minister Goh to counter rote learning. This education reform mandates the teaching of critical thinking, IT skills, and citizenship education. To create space for critical thinking in the classroom, the curriculum for all subjects was supposed to be cut by 30%. Koh (2002) comments that to make the recommendations of TSLN a reality, both curriculum and pedagogy have to change. He recommends that critical literacy should be taught in Singapore's English classrooms. For instance, students could be given a project to explore the ramifications of "Singlish," the local variety of English spoken in Singapore. One of the key questions they could think about could be: "What does a campaign against Singlish do to an individual?" (p. 261).

Koh (2004) rightly comments that TSLN is a "curriculum imagination" that the state has conceived "as the solution to the problems of the new economy with its attendant volatile job markets, changing job demands, portfolio careers, and an increasingly competitive international labor pool" (p. 338). Thus, the intention of the policy is in the right direction. However, there are shortcomings in its implementation that need to be addressed. For instance, in the case of the introduction of IT into schools, the policy tends to emphasize merely competency. Students are taught basic skills like making web pages, saving, surfing, retrieving, and using excel. The most important skill in IT, which is technological literacy that allows students to question the value of hypertexts and create their own content, is missing in TSLN. Thus Koh (2004) recommends:

> The new IT curriculum that the Ministry of Education has charted and implemented is essentially good in terms of the provision of infrastructure and the availability of software and hardware, but I argue that it will have greater success and purchase for the new semiotic economy if it re-conceptualises technology from a functional perspective to a critically-oriented technological literacy (p. 340).

TSLN has created some changes in curriculum, assessment, and the types of work that students produce in school. For instance, the government has identified life sciences as an important part of the future of the science curriculum. Since 2001 there has been a move to incorporate life sciences into the regular curriculum in Singapore. In terms of assessment, project work has now been identified is an important way of measuring what students have learned. Also, project work is interdisciplinary and allows students to see connections between the various subjects that they study. Since 2005, project work has also been included as one of the admissions criteria for entry into local universities (Koh, 2004).

Koh's (2002) views are substantiated by Curdt-Christiansen and Silver (2012) who studied how the TSLN initiative is translated into classroom practice. The authors explain how "Asian Values" are in conflict with two major educational reforms in Singapore: Thinking Schools, Learning Nation (TSLN, 1997) and Teach Less Learn More (TLLM, 2004). They analyze 20 English lessons that implement the Strategies for English Language Learning and Reading (STELLAR) program in Grade 1 (7–8 years) and Grade 2 (8–9yrears). The authors find that though educational reforms like TSLN encourage critical thinking, the sociocultural context of education requires students and teachers to follow the hierarchical norms of conformism. Specifically, they find that the recommendations of TSLN are being accepted by teachers in that they are changing the physical arrangement of the class. However, there is very little change in more important aspects like pedagogy, interactional patterns, and creating affective warmth in the classroom.

Another major concern about TSLN is that the center still has control over the curriculum though the schools have been allowed to cut 30% of it. According to Sharpe and Gopinathan (2002), "In Singapore's case it could be argued that the center's control over the curriculum and assessment, and consequent rigidities in instruction, is a Fordist relic and inappropriate for a TSLN vision" (p. 163). This is despite the fact there has been a move towards decentralization in Singapore's school system, which includes the establishment of autonomous and independent schools. These schools have more autonomy to innovate regarding curriculum, and their principals have greater freedom over matters such as fundraising, staffing, and school-based programs.

Finally, though many schools have cut 30% of their curriculum, the time that this has opened up in the school day is being used by many teachers to train their students for exams. As a consequence, instead of creating intellectual space for creativity and critical thinking, students are yet again in the grinding mills of high-stakes exams. This is because schools are still ranked according to their results in the national examinations and teachers are hard pressed to meet the high standards of their schools. Even if teachers believe in the philosophy of TSLN they are unable to implement its goals because of pressure from parents and the establishment to perform well in exams.

Madrasahs

Though very few students in Singapore attend madrasahs, they are an important institution in the Malay community as they have the responsibility of producing future religious leaders. Approximately 4% of Malay students receive full-time education at the six madrasahs in Singapore. The curriculum for the madrasahs is not under the Ministry of Education (MOE), but with MUIS, which was established in 1968 to advise the President of Singapore on all matters relating to Islam. However, all primary school children in the madrasahs have to sit for the Primary School Leaving Examination (PSLE) mandated by MOE. The controversy regarding the quality of education provided by madrasah is heighted by the fact that though the drop-out rate in madrasahs is high, there is also an increase in enrollment and the popularity of these schools. The drop-out rates were 71% in 1996, 65% in 1997, and 65% in 1998. At the same time though in 1986, there were 135 Primary 1 (grade 1) students enrolled in various madrasahs, and the number rose to 464 in 2000. The government caps the intake of students into Primary 1 in madrasahs at 400 (Tan, 2010).

Regarding curriculum, the priority for madrasahs is to teach Islamic subjects so that graduates from these schools can become religious scholars and leaders. The government of Singapore has a technocratic view of education in which education is seen as a means for producing a competent, adaptive, and productive workforce. Educational reforms in Singapore are instituted so that students can better meet the requirements of the knowledge economy. According to Tan (2010) from the perspective of the state, the madrasahs, because they emphasize subjects like Islamic theology, Islamic jurisprudence, and Arabic language, are not able to achieve the goal of equipping students for the twenty-first century unlike the secular schools (Tan, 2010).

Buang (2010) had a different view. She found that since 1971, the madrasahs have taken it upon themselves to prepare their students for national-level examinations in Mathematics, Geography, English language, and Malay language. Buang comments: "With good nationally and internationally recognized academic qualifications, the madrasahs realized that their students stand a good chance in the academic labor market" (p. 47). Buang documents that MUIS has also been proactive in implementing the ITMasterplan in madrasahs by integrating IT into the curriculum.

Concluding Remarks

What are the future directions for a school system already ranked as "great"? According to the latest McKinsey report on education, though Singapore's education system is "great," it is still not "excellent." It is notable that of the 20 school systems ranked in this report, not one is "excellent." Yet, it is important to think about what it would take to progress from the "great" to "excellent." It is the type of interventions carried out in schools that can take a school system from "great" to "excellent." "The interventions of this stage move the locus of improvement from the center to the schools themselves; the focus is on introducing peer-based learning through school-based and system-wide interaction, as well as on supporting system-sponsored innovation and experimentation" (Mourshed, Chijioke, and Barber, 2010, p. 26). What the authors mean is that it is only in the journey from "poor" to "fair" that schools systems are characterized by tight control from centralized authorities. As the system matures to the "good" and later "great" stages, there is a "letting go" of centralized control.

My view of curriculum reform in Singapore is that the system is definitely aware and open to change. There are also schools with Principals who are willing to try out new ideas. My current research project is about using the mother tongue to teach English to struggling readers. In this project, I am currently working with a school with an excellent research culture. At the same time, the old efficiency-driven system is still in place and in need of change, especially in the areas of pedagogy and assessment. No doubt, reform has to be holistic, transforming every single aspect of the school ecology to create a new environment. Going forward, it is this holistic approach to educational reform that will take Singapore's school system from "good" to "great."

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