Introduction

A former British colony, the city-state of Singapore gained its independence in 1965, and since then, the People’s Action Party (PAP) government has consistently promoted education as the nation’s multiethnic and meritocratic ideal (Luke, et al., 2005; Sharpe & Gopinathan, 2002). Since its inception as Britain’s free-trading port in 1819, Singapore has attracted a large migrant population. In 1965, its population was approximately 1.4 million, consisting of approximately 75% Chinese, 13–15% Malays, and 6–8% Indians. This ethnic ratio has held more or less steady since then (Clammer, 1998; Singapore Department of Statistics, 2005), although the population has grown to 4.35 million (Singapore Department of Statistics, 2005).

In recent years, in particular, Singapore has been the site of remarkable educational developments and innovations, knowledge and semiotic economies, and language ideologies and cultural identities (Tan, Gopinathan, & Ho, 1997; Luke, et al., 2005). Simply, as a small country with little primary industry and natural resources, it has defined its future as an information/service/digital economy driven by educational investment and development. It is a small-scale prototype of what we might call a “semiotic economy” (Luke, 2003)—an economy based around codes, signs and symbols—where the lion’s share of productive work and consumption, and lifestyle and community membership is based
on linguistic and communicative competence, information and capital flows, and engagement with new media and technologies.

In international studies of educational achievement, Singapore's test scores are noticeably higher than most countries. For example, in the 2003 Trends in International Mathematics and Science Study (a study conducted in forty-six countries), Singaporean fourth and eighth graders had the highest scores in mathematics and science (National Centre for Education Statistics, 2003). Singaporean students also performed well in international reading and literacy studies: the 2001 Progress in International Reading Literacy Study determined that Singaporean fourth graders scored much higher than the international average and surpassed English-speaking countries such as Scotland and European countries such as France and Norway (Progress in International Reading Literacy Study International Report, 2001).

In Singapore, educational and school-related issues surface in a unique blend of sensitivity and obsession in the press and media, professional and academic discussions, and political and parliamentary debates, with curriculum content and high-stakes examination debates (2) being the regular focus of banner headlines and heated exchanges in editorials and letters to the editor. The public—many parents, politicians and even the corporate sector—share an overall belief that the educational system is a prime engine of their economy and national identity. Singapore's ideological and cultural consensus on the national significance of education has been strong, and established by political will and sustained governmental funding from a "strong state" model (Sharpe & Gopinathan, 2002, p.151).

To date, the establishment of state-of-the-art schooling, technical education, and a university system—as an essential and foregrounding part of nation building—has been undertaken with great force, speed, and sustained fiscal resolution. Issues of information technology capacity, infrastructure building, curriculum writing, teacher training, and basic education system capacity have already been addressed in a substantial manner. In the last decade, the expansion of top-end laboratory capacity, research funding, and infrastructure development has surpassed that of many Organization for Economic Co-operation
and Development (OECD) countries. In the next decade, the push will perhaps move past the sciences, technology, and business into the arts and humanities as part of an overarching creative industries policy.

But this educational situation—a socio-historically specific, and to many outsiders, quite a startling post-postcolonial one—raises a further series of questions about educational policies, reforms, and futures. In reference to educational policy, questions about how to take schooling and education in Singapore to the next level have surfaced. Yet there are few international examples of what such a level might be. Current educational systems in the West cling to industrial educational models (more or less Fordist), which are unwilling or unable to take on substantive educational reform, particularly in the area of curriculum and pedagogy. What Singapore has to deal with, then, is nothing less than the reconceptualization of educational theory and practice, with challenges comparable to those that were faced in the West during industrialization and urbanization, or in the Asia Pacific at the point of decolonization, as the nation is in a process of societal transformation that has not been experienced by others. Below, we would like to examine major developments in the recent educational reforms in Singapore, and explore how educational research should engage with the educational policy and reform of a nation in such an ongoing transformational process.

**Focusing Policy on Curriculum and Pedagogy**

Prior to the PAP's coming into power in 1959, education was “a collage of different language medium schools catering to distinct ethnic communities” (Kang, 2004, p. 146). In 1959, the PAP government introduced the Five-Year Plan, based on the report by the All-Party Committee of the Singapore Legislative Assembly on Chinese Education (All-Party Committee of the Singapore Legislative Assembly on Chinese Education, 1956). This plan replaced community-based vernacular education with a highly centralized system founded on the equal treatment of all schools and the four main languages—English, Malay, Chinese and Tamil. The educational system was modeled after the English system (Yip, Eng, & Yap, 1997) and followed a basic structure of six years of
primary education, four years of secondary school, and two years of pre-university education before admission into a university. There was a provision for a common syllabus for all school subjects in the four languages and the institution of common national examinations. These examinations were: the Primary School Leaving Examination, the Lower School Certificate Examination (SC), taken after the completion of secondary grade four, and the Higher School Certificate Examination (HSC), taken after the completion of pre-university education. (SC was subsequently revamped and renamed as the General Certificate of Education [GCE] at “O” level, and HSC as the GCE at “A” level.)

Although there were some changes—especially in the area of bilingual education policy—, the highly centralized school system that was established in 1959 more or less remained the paradigm for education in Singapore until 1987, when, in the wake of the 1985-1986 economic recession, an urgent call was made by the Economic Committee of the Ministry of Trade and Industry (a committee set up in 1986). The committee recommended that Singapore upgrade its workforce, stating that its workforce was less educated than Japan’s and Taiwan’s and asserting that schools should play a major role in producing more resourceful, adaptable, and creative workers (Tan, 2002; Sharpe & Gopinathan, 2002). The result was a move towards the decentralization of schools via the creation of a system of independent and autonomous schools that would— theoretically, at least—allow a proliferation of curricular innovations.

In 1987, the Singapore government embarked on a number of reform initiatives to diversify educational provisions and deregulate its school system (Minister of Education, 1987; see also Ministry of Education [hereafter MOE], 1991).(3) The diversification and deregulation policy was used to shift Singapore’s schools from the centrally controlled and homogenous school system that was in place to an educational system that would provide new elective subjects and enrichment programs (Parliamentary Debates of Singapore, 1989), and the policy was followed by a number of new school reforms and initiatives.

Singapore’s rationale for the move towards decentralization was not so much aimed at a cutback in state spending as it was driven by the need for excellence in education. The decentralization would allow for the innovation of school
organization, curriculum, and pedagogy, so that the clarion call of the 1986 Economic Committee to produce a higher-skilled workforce could be answered. Indeed, Singapore's spending on education—from primary schools to universities—has increased since then. It spent approximately 3% of its Gross Domestic Product in 1987, 3.5% in 2001, and 4% in 2005 on schooling (Tharman, 2004; see also Tan et al, 2001).

In 1987, *Towards Excellence in Schools* (Minister of Education, 1987) was written by an elite group of school leaders who visited private schools in the United Kingdom and the United States through the sponsorship of Singapore's Minister for Education. Upon the group's return, it advocated the establishment of state-funded independent schools—schools fully funded by the government but allowed to act autonomously in terms of school management, finance, and hiring of staff and salaries, with room for curricular initiatives. Yet, diversification of school type—Singapore's first move towards decentralized, school-based/site-based management—was not really geared towards innovation in curriculum or classroom-based pedagogy (see also Tan, 2003).

The most recent major initiatives began in 1997 and signaled the next wave of reforms, specifically focusing on curriculum and pedagogy. These initiatives followed several documents authored by the state: *Thinking Schools, Learning Nation (TSLN)* (MOE, 1997c, 1998), the first edition of *Master Plan for IT in Education* (MOE, 1997b), and *National Education* (MOE, 1997a). Among these, the TSLN initiative, in particular, was designed to increase instructional flexibility to meet a diverse student population and make schoolwork relevant to students' lives (MOE, 1997c). It pushed the school system towards a more student-centered, active learning paradigm, with the aim of producing autonomous and independent learners (MOE, 1998).

In essence, the discourses of TSLN were post-Fordist discourses, comparable to those found in strategic statements of educational systems in the North and West, as well as Hong Kong, Taiwan, Australia, Canada, Sweden, and New Zealand. They were (and are) prototypical attempts to address the new conditions of nationhood and globalization, typically including calls for producing less risk-averse citizen workers who would be: creative and entrepreneurial in...
recognizing and generating new markets and services; capable of continual learning, re-learning, and unlearning; dispositionally able to deal with cultural diversity and multiculturalism in their community, workplace, and institution; and thereby economically flexible in the face of volatile employment and the industrial future.

In 2000, Singapore education adopted the Interdisciplinary Project Work (IPW) as a part of junior college (upper secondary or pre-university) students' curriculum and assessment matriculation profiles. (There were [and are] twelve junior colleges and one centralized institute in Singapore that offer two- and three-year preparatory courses for students who will be taking their "A" level examinations, the traditional criteria used for university admissions.) The IPW initiative was a part of “problem-based pedagogy” —a pedagogical attempt to re-organize the curriculum (subject matters) in a more integrated way—that allowed the students to pursue a synthesis of knowledge from various subjects, and critically and creatively apply it to real life situations. The four core skills listed in the IPW to prepare students for lifelong learning were knowledge application, collaboration, communication, and independent learning. The skills were also used to emphasize the teachers’ co-curricular planning, student interdisciplinary study, and the making of textual and multimodal artifacts with community and intellectual application.

In 2002, in pursuit of broadening the competencies of its students, the state of Singapore undertook a review of junior college/upper secondary education. The aim was to accelerate the “shift from efficiency to diversity, from content mastery to learning skills, and from knowing to thinking” (MOE, 2002, p. 2). The Junior College/Upper Secondary Review Report 2002 (MOE, 2002) recommended greater diversity in school-learning pathways through the introduction of the six-year Integrated Program. Students would be allowed to skip the GCE "O" levels and move on to their pre-university (junior college) education with the choice of taking either an “A” level examination, International Baccalaureate (IB) test, or Scholastic Aptitude Test (SAT) at the end of the programs. The top 10% of the students would be encouraged to undertake alternative curricula and qualifications. The report also recommended the setting up of specialized in-
dependent schools in arts, science, sports, and mathematics; and a few “privately run schools.”(4)

These initiatives occurred in the context of a focus on digital technologies. Like many educational systems in other (post) industrialized and digitalized nations, Singapore began its school reforms under the hypothesis that information technology would be a key means for the enrichment (and remediation) of pedagogical practice. This view was enhanced by both the scale of the task at hand (340 primary and secondary schools in total) and the relatively advanced levels of public and corporate IT infrastructure on the island. The state policy written in IT Masterplan (MOE, 1997b) sought to increase the tools and resources (of human or material kinds to support IT education) available to ensure that teachers had the skills needed to employ them in their classroom. A follow-up strategy, formulated in Masterplan 2 (which has been implemented since 2003), sought to consolidate the effort required to appropriate new technologies into teachers’ and students’ personal plans and actions for teaching and learning. The aim was to create a culture of information and communications technology across the educational community that would advance the use of technology by teachers and students.

This suite of initiatives was unified by at least one major policy theme: the recognition that schools and teachers need to change the didactic, traditional rote reproductive character of pedagogy. Although this was (and is) a recurrent topic of discussion across educational systems in the Asia Pacific, including Japan and China, many of the specific Singaporean policy moves were aimed at generating flow-through effects to classroom practice to a greater extent than perhaps those of any other countries in Asia. The moves, indeed, included: reductions in curriculum content of up to 30%; the encouragement of integrated, multidisciplinary programs; project work; a gradual lessening of the focus on high-stakes examination systems, and the development of alternative educational pathways for students. National examinations such as the GCE “O” level became an option and the weight of the GCE “A” levels as university entry criteria were de-emphasized by project work portfolios as well as co-curricular activities portfolios in arts, sports, and community work.
The reforms were not restricted to primary and secondary schooling. They also involved the introduction of child-centered early childhood education, the development of a more educationally focused state, community, and privately funded childcare infrastructure, and the expansion of community self-help and family support organizations. The reforms were marked by the opening up of university entry pathways and criteria, and by major post-secondary expansion with goals for university participation of over 25% by 2010 among high school graduates (it was 23% in 2005) (Tharman, 2004). However, to determine if and how these policy initiatives and programs yielded change in classroom practices requires an empirical study. At least in part, then, the issue faced by Singapore was a classical one of policy implementation—of the effects and consequences, intended and otherwise, of various centrally driven interventions focused on the everyday work of students and teachers in schools.

In 2002, the National Institute of Education—Singapore's sole teacher-training institution, affiliated with the Nanyang Technological University—established the Centre for Research in Pedagogy and Practice (CRPP) as an independent educational research body funded by the state. The center was given autonomy for its research projects, personnel hires, and operational and financial management. The government committed $48 million (in Singapore dollars) for research over a five-year initial period—or, by local calculations, more than 10 times the per capita investment in educational research in the United Kingdom, Australia, or Canada. Its objective was the enhancement of classroom practice in Singapore's schools in the curriculum areas of English, Chinese, Malay, Tamil, Mathematics and Science, and digital information technologies. A further goal of the CRPP was to build overall national infrastructure and capacity in educational research, and to train a new generation of educational researchers, teacher educators, policymakers, and curriculum developers from Singapore and Asia.

Since its establishment, the CRPP's research programs have examined a number of empirical and descriptive questions concerning the reform initiatives from bottom-up critical perspectives—questions concerning the core practices of schooling, the contexts where knowledge, practice, and identity are shaped,
and the socio-economic consequences for students' life pathways and trajectories. In particular, the metaphor of pathways or trajectories across schooling as well as through new modes of production and consumption, economic arrangements, and cultures and institutions has offered a sociologically rich and empirically focused way of looking at the relationship between individuals, generational and sub-cultural cohorts of students, and the futures of their communities and, indeed, the nation. While the research at CRPP is still in the middle phase, it has yielded some missing pieces of the puzzle—various kinds of "evidence"—in the field of educational policymaking and implementation (for further discussion, see Luke et al., 2005).

Conclusion: Educational Reforms in Asia and Evidence-based Educational Policymaking

Education in the Asia Pacific faces unique challenges, and can be described from varied standpoints and disciplinary frames. Current regional policy debates typically are defined in terms of the capacity of educational systems to respond to the human and intellectual capital requirements of global markets and economies. Working from the perspectives of the humanities and cultural studies, a principal reference point is the emergence of pan-Asian, cosmopolitan cultures (Cheah & Robbins, 1998; Wee, 2003), accelerated by digital technologies, mass communications, and emergent forms of mass, popular, and corporate culture. From sociolinguistic perspectives, persistent issues include the official linguistic media of instruction, language loss, change, and creolization, and the variable performance of children from different linguistic and cultural backgrounds (Tollefson & Tsui, 2004).

Some regional differences within the Asia Pacific are important to note. In many South Pacific and South-East Asian countries, there are ongoing struggles to achieve a basic schooling and teaching infrastructure, the education of girls and women, a coherent national curriculum, a universal state education provision for rural areas, and compulsory/universal secondary education. There are also contexts in Singapore, Hong Kong, Korea and Taiwan, where "first wave" questions about basic education have been largely dealt with. In general terms,
then, educational policy and practice in Asia allows for the playing out of
tensions between centralization and decentralization (Bray, 2003), between
colonial and postcolonial educational cultures (Tan, 1997), and between new and
old articulations of traditions, identities, practices, and generational ideologies.

From a sociological perspective, the challenges in Asia involve nation states
in ongoing formation and transition, and a general movement from highly
regulated to more open, secular societies and linked economies. As the events
since the economic crises of 1997 have signaled, the balances and tolerances
required for sustainable social, economic, and educational policy are tenuous
and contingent. As the events since September 11, 2001, and the Bali bombing in
2002 signal, the issues have always been about the (re) emergence of complexity
and the struggles in multi-ethnic and multicultural nations, which are, in the case
of Singapore, bound together not so much by a single language, race, or religion,
but by a critical realization of national histories, urban spaces and places (cf.
Kong, 1999; Ooi, 2003), and the struggle over the issues of meritocracy and
multiracialism for its majority and minority populace (cf. Barr & Low, 2005;
Kang, 2004; Rahim, 1998). It is in this unique context of interwoven and net-
worked societies—a hot dynamics of economic change, of new and old nations,
of cultures and languages in perpetual and longstanding contact, of youth and
generations in transition, of multiethnic communities in harmony and tension—
that we can speak of reform, innovation, and change in knowledge and pedagogy
in Asian education.

While some of these pressing matters confront education in the West (and
North), the situation is not a simple matter of development/underdevelopment
or importation of reform from the West to the East. Nor is it a simple matter of
an inexorable external force exerted by Western “globalization” on Asia (Bur-
bules & Torres, 2001). As the comparative works of Tan (1998), Bray (2003), Mok
and Chan (2002), and Wong (2002) have noted, there has been a systematic
application of many Western styles of educational thoughts, governance, and
development to educational systems in Asia, with mixed effects and results. This
is not to suggest that even sensitive graftings of research paradigms, school
types, classroom approaches, or curriculum innovations from the United States,
the United Kingdom, Canada, Australia, and Europe are impossible. But such applications would have to begin with a rigorous “inside out” empirical and theoretical investigation—including, for example, a local documentation and critical analysis of the specific demographic and cultural contexts and an examination of institutional arrangements and classroom situations of the Asian educational systems in question.

It is also important to re-articulate what educational policy and policymaking is, and how we evaluate its impact and significance in the context of the Asia Pacific. Educational policy serves as a guiding principle for the strategic regulation (and deregulation) of flows of human and material resources to schools and communities, and teachers and students, to achieve normatively established educational outcomes and consequences (Luke et al., 2005). These resources include: the fiscal, material, and technological infrastructure required for teaching and learning; the human resources of teachers, administrators, and support staff; and, indeed, the discourse and intellectual resources of curriculum materials, assessment instruments, and teaching practices.

As described in the previous section, in Singapore, ministries and departments related to education have set the overall policy directives that reflect the normative, narrative orientations of the state, communities, and people involved, including teachers, students, and parents. However, the working of policy into practice has involved the translation of the claims and propositions of these narratives into changed classroom practice and discourse and, thereby, into different relations between student and teacher and between knowledge(s) and curriculum. Moreover, the evaluation phase of the policy might require a new approach and perspective. For example, the national “settlement” on the importance of education in Singapore may suggest that the “proof” of the system does not solely lie in the production of publicly disseminated performance indicators to establish the legitimacy of the system and its governance. In this regard, the stories of state educational policy should no longer be simply about attaining better test scores and economic growth rates of the nation. They should be grounded in the critical assessment of educational power that produces intellectual and other kinds of differences in the pathways and consequences for
students, teachers, and communities with diverse backgrounds and that works either to maintain or close the gap between socially and economically powerful and less powerful groups (see also Luke, 2005).

To date, the prevailing response of various governments across the world to the question of "proof" when concerning educational reforms and initiatives has been to rationalize policy formulation in relation to empirically derived indicators; hence, "evidence-based" social and educational policy (Bascia et al., 2005). But limited kinds of data have been permitted to count as evidence, with an over-reliance on test and examination scores as a principal indicator of educational system efficacy, and on classical experimental design as the sole model for the selection and implementation of reform.

In addition, in North America, the United Kingdom, and other major educational systems, the relationships between those serious academics in the field of educational research and their governments have recently become tense. Disputes between the advocates of experimental and quantitative approach and those of qualitative, interpretive work have been exacerbated by the moves of state and federal governments to narrow what counts as legitimate evidence for selecting curriculum and pedagogic methods. Further, among many educators in teacher education programs and senior educational bureaucrats, the divisions between policy and the reform of practice appear tenacious and resistant to systemic approaches. Added to this is an air of continual and manufactured distrust and "crisis" over the quality of teacher education and the relevance of educational research (e.g., Cochran-Smith & Fries, 2001).

The perennial questions of "post-war" state education in the area of critical educational studies in the West have been: What should count as educationally acquired knowledge, skill and competence, value and belief? How should these be taught and learned? What are their material consequences for individuals, communities, and societies? How are these consequences produced and reproduced with differential effects across populations? Who benefits from the particular kinds of educational reforms and innovations? These questions—central to educational sociology and at the heart of state schooling for the past half century—often have different inflections in the political and educational
For their part, the Singaporean education ministry, those in teacher education, and educational research establishment, seem committed to a medium- to long-term agenda of well-funded, multidisciplinary research for the analysis of practice, with a central focus on remaking pedagogy. The current move suggests an alternative idea to the prevailing model of “evidence-based” policymaking and evaluation. The Singaporean approach retains the notion of “evidence” and goes beyond the conventional, limited sense of “evidence-based” policymaking. It attempts to build a rich, multidisciplinary, and interpretive social science as an evidence-gathering tool and a knowledge base from the findings produced by a range of studies. It also involves the dissemination of findings across the educational community as well as the larger public sphere in order to prompt debate and discussion on reforms and innovations. This would provide a picture of the workings of an educational policy, describing the relative alignments and misalignments, continuities and discontinuities between the educational message systems of curriculum, pedagogy, and evaluation, including high-stakes examinations. The approach would also provide a documentary picture of its capacity to produce combinatory forms of capital (i.e., skills and knowledge, identity and disposition) with value and power across people’s lives, including work, family, and the community.

The current educational reform movements, however modestly, attempt to take critical perspectives developed across the globe and employ the broader and nuanced notion of empirical research. The focus is not on cutting budgets, narrowing the scope of educational research, advocating accountability through testing, and increasing the power of the state in the name of privatization, but on the issues of curriculum and pedagogy, arguably the most important aspect of educational activity. This suggests that the city-state of Singapore has moved against the grain of current neo-liberal educational reforms. While it would be interesting to examine the social and historical conjuncture(s) of this Singaporean move and its impact upon the disenfranchised and historically marginalized, and while the responses from its citizens, including those constituting its power bloc, to the reforms remain largely to be seen, one can see that Singapore
is serious about developing an alternative pathway for addressing contemporary (and usually vexing) issues of education.

(1) Singapore was a British Crown Colony that became self-governing in 1957 and the PAP was elected into power in 1959. Singapore gained its independence as part of the Federation of Malaysia in 1963, and became an independent and sovereign nation after separation from Malaysia in 1965.

(2) The notion of high stakes examination refers to those tests that bear serious consequences for the students who take them (e.g., a denial of promotion, high school diploma, or entry into the next level of education).

(3) Subsequently, the Singapore government wrote and published a number of documents and reports, which continue to speak the basic narrative of diversification and deregulation reform policy. See MOE 1997a, 1997b, 1997c, 1998, 2000, 2002, 2003.

(4) As of November 2005, the concept of privately run schools has not been, as yet, fully spelled out. See MOE, 2002.

References／参考文献


