The Singapore Curriculum: Convergence, Divergence, Issues and Challenges

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The aim of this book is to provide a multifaceted and critical analysis of the Singapore curriculum within the context of national educational and curriculum reform as a response to the economic, social, and cultural challenges of globalization. Curriculum is framed in terms of the *policy curriculum* (reform visions, discourses and initiatives), *programmatic curriculum* (curriculum structures, programmes and operational frameworks that translate reform visions and initiatives), and *classroom curriculum* (instructional activities and events that reflect how teachers enact reform initiatives). Contributors to this volume analyse how the government has responded in the policy arena to the challenges of globalization (Chaps 2, 3, & 4), how curriculum reform initiatives have been translated into programmes, school subjects, and operational frameworks (Chaps 5, 6, & 7), and enacted in classrooms (Chaps 8, 9, 10, & 11). Finally, curriculum reform in Singapore is also examined from international, comparative, and future perspectives (Chaps 12, 13 & 14).

In this concluding chapter we discuss how policy, programmatic and class-room curricula reflect, on the one hand, global features and tendencies, and on the other, distinct national traditions and practices. In other words, we examine issues of convergence (due to pressures and influences created by globalization) and of divergence (due to distinct national culture, traditions and practices) (see Anderson-Levitt 2008) with respect to the three curriculum domains (Chap 1). Through this examination, we relate what has been happening in Singapore to what has been happening in the world in terms of curriculum reform and globalization, and make clear how curriculum reform policy, curriculum development, and class-room enactment in Singapore have responded to globalization in *distinctive* ways. We conclude by identifying a set of issues, problems, and challenges that not only concern policymakers and reformers in Singapore but (which we believe) would be generally useful for policymakers, educators, and researchers in other countries.

Convergence and divergence

Reform vision, discourses and initiatives

A high degree of convergence can be seen in the policy arena. As in many countries, both developed and developing, reform discourses in Singapore are also largely *economic* in orientation, driven by the imperative of the state to advance in

a competitive, globalized world (Chaps 2 & 3). The TSLN reform is primarily "a way of retooling the productive capacity of the system" in response to the human and intellectual capital requirements of global markets and economies (Gopinathan 2007, p. 59; also see Chap 2). Policymakers recognize that in such a world, knowledge and innovation are absolutely essential if countries want to keep up, and therefore, education and training become fundamentally important (Chaps 3, 4, &13). Reform initiatives have therefore been introduced with a central focus on the development of ICT competencies, problem solving skills, and critical thinking, and the cultivation of creativity, innovation, entrepreneurial flair or risk taking among students. They are underpinned by related innovations like structural flexibility and responsiveness, content reduction in the national curriculum, the introduction of project work, experiential learning, and changes in the examination systems, among others (Chap 2). The underlying argument is global in nature: that "the prosperity of post-industrial information and knowledge driven societies would depend [inescapably] on the optimal development [and exploitation] of the human capital of all its citizens" (Buchberger 2000, p. 3).

The aims of schooling also take on a globally recognizable form, with a central focus on the formation of competent citizens (cf. Rosenmund 2006). As indicated in the Desired Outcomes of Education (issued in 1998), the central purpose of schooling is stated to be the formation of the "whole person" who is equipped with the "skills, values and instincts Singaporeans must have to survive and succeed in a bracing future" in the 21st century (Ministry of Education [MOE] 1998, para 3; also see Chap 3). In Curriculum 2015 (C2015), the central purpose of schooling is defined as the formation of "a confident person," "a self-directed learner," "an active contributor," and "a concerned citizen," with an emphasis on the mastery of a set of 21st century competencies deemed essential for life and work in a globalised world (Chaps 3 & 14). This resonates well with the current global discourse on curriculum policy, implementation, and assessment that foregrounds the importance of helping students develop 21st century competencies (Voogt and Roblin 2012; also see Dede, 2010a, 2010b).

These signs of convergence can be explained as a response to common global pressures and the internationalization of education. As in other countries, curriculum reform in Singapore is a response to common external pressures on the curriculum which "have been largely economic and have focused on how to prepare students to be employable in an increasingly competitive economic environment" (Yates & Young 2010, p. 4). As in many other countries, education policymakers in Singapore have been actively engaged in the process of "policy borrowing" (cf. Phillips 2005). The development of the TSLN vision, discourses and reform initiatives was based upon the government's global reassessment of other education systems, particularly those of the US, the UK, and East Asian economies (Chapters 3 & 4). The Desired Outcomes of Education, for instance, was "a product of intensive studies into trends emerging in Singapore, the region and the world today" (MOE 1998, also see Chap 3). The 21st century competencies rhetoric, Tan observes, "is remarkably similar to policy initiatives in other countries as various governments borrow ideas internationally in a seemingly endless quest for that one magical formula for reforming education" (Chap 3, p xx).

Nevertheless, policy borrowing is not a simple, straightforward process; what is borrowed has to undergo a process of modification, adaptation, and transformation in a particular socio-cultural context (See Phillips 2005; also Deng 2011).

As in many other countries (e.g. China, Finland, and Germany), there is a strong effort in Singapore to maintain national values and traditions. National Education, for instance, represents the government's attempt to maintain national traditions in the current globalized age. It attempts to strengthen the identification of Singaporeans with the nation through helping them understand and appreciate national history and traditions (see Chaps 2, 4, 5, 10, 13 & 14). So even in this globalization age, Kennedy observes, "there was the desire to anchor young Singaporeans in local values and ideas" (Chap 12, p. xx). This seems to contradict the assertion made some scholars, e.g., Meyer (2006), that with the increased homogenization of curriculum across the globe, national history and traditions tend to be marginalized in the school curriculum of a particular country.

Overall, the instituting of TSLN reform initiatives shows that the government has actively engaged with the opportunities and challenges of globalization in the educational arena, with no signs of retreating under the onslaught of globalization. This is in contrast to the popular claim about the diminishing role of the nation state in the age of globalization in the literature (cf. Ohmae 1995). In Singapore, while the state is under some pressure, there is no evidence of a weakened state (Chaps 2 &13). Apart from addressing the economic challenges created by globalization, the government well recognizes that meeting these pressures of globalization necessarily involves responding to distinct local exigencies—the concerns for Singapore's survival, ethnic pluralism, geopolitical vulnerabilities, etc. (Chaps 2, 4, 5, 10, & 13). The TSLN reform thus aims to produce citizens "who have the 'right' skills to go 'global' yet with their hearts rooted to 'local'/'national' identity, traditions and values" (Chap 4, p xx; also see Chapter 10).

Programmes, school subjects and operational frameworks

There are signs of convergence too in programmatic curriculum making. The ways of translating reform initiatives into the programmatic curriculum reflect a global trend in curriculum development—a move toward delineating learning outcomes uniformly across various school subjects which serve as an essential frame of reference for planning, implementing and evaluating curriculum reform (Yates & Young 2010). The Desired Outcomes of Education systematically delineate specific developmental outcomes at different stages of the education cycle, and are meant to "drive our policies and programmes, and allow us to determine how well our education system is doing" (MOE 2009; also see Chapter 3). The critical thinking initiative entails the specification of a set of learning outcomes—in terms of thinking skills, processes and attributes—that serve to guide and evaluate teaching and learning activities across different subject areas (Chap 6). C2015 consists of a set of learning outcomes centred on 21st century competencies, which are to be "infused" into all school subjects as well as informal learning experiences, and

provide an important direction for curriculum planning, implementation, and assessment (Chaps 3, 13, & 14).

Another sign of convergence is indicated in the attempt to diversify the programmatic curriculum, through decentralization, creating flexibility and choice in school types, programmes, and structures. The creation of independent schools since 1987 with greater autonomy over budget, staffing, and curriculum was the first step in loosening up the system. Different school types like the "Singapore Sports School," "School of the Arts," and "NSU High School of Science and Mathematics" are intended to provide relevant and a wider range of schooling opportunities for students with talents in specific areas. Integrated programmes (IP) have been introduced, which allow students to skip their "O" level examinations and move directly to the junior college curriculum, thus weakening a little the dominance of the "O" level examinations for academically high performing students (Gopinathan 2007; also Chap 2). The streaming system "has been altered by wider curricular options and by more and flexible pathways" (Chap 2, p xx). Such an effort is believed to be essential for preparing diverse talents for an innovationdriven growth, and frequent and unpredictable change in economic and social environment (Chap 2). The attempt to diversify the curriculum in these ways is congruent with the international trend toward greater flexibility in curriculum, considered as being able to prepare school leavers for 21st century challenges (Yates & Young 2010).

Convergence is also reflected in the Ministry's support of school-based curriculum development (SBCD) and innovation. Within the "Ignite!" framework teachers are provided with opportunities for "designing, implementing and studying new or improved teaching and learning approaches, and...in curriculum design, pedagogy and assessment" (MOE 2007, p. 1; also see Chap 7). The MOE is committed to providing "top-down support for bottom-up" school-based curriculum innovations. Teachers are provided with more time to prepare, reflect on and share ideas to make teaching more responsive to student needs, and more space and opportunities for professional development (Chap 7; also Leong, Sim, & Chua 2011). This, to a certain extent, reflects the global movement toward decentralization in curriculum decision making, teacher professionalism and autonomy (Anderson-Levitt 2008).

However, there is also clear evidence of divergence from international trends and tendencies. Unlike the outcomes-based model adopted by many countries in implementing curriculum reform which tends to undermine the importance of academic content (see Yates & Collins 2010), the approach to curriculum making used in Singapore has retained academic content as the "fundamental" in teaching and learning (Chap 2). For instance, while adopting a sort of outcomes-based approach to curriculum making, the critical thinking and National Education initiatives are intended to strengthen, not supplant, the academic content of the school curriculum; the learning outcomes of both critical thinking and National Education are *infused* into the formal and informal curricula (Chaps 5 & 6). C2015 adopts a vision of "Strong Fundamentals, Future Learning," signaling that academic subjects like languages, mathematics, science, and humanities continue to play an important part in the new curriculum (see Chaps 3, 12, & 14). This can be

accounted for by the recognition of the government that "academic excellence" for a majority of students is a strength. Therefore, curriculum reform in the Singapore context builds upon existing strengths while seeking to accommodate a wider definition of talent and ensuring that weaker students can access a relevant and meaningful curriculum within the system.

With regards to school-based curriculum development (SBCD), a process that started in 1987 when the first independent school was established, teachers in Singapore mostly participate in what Gopinathan and Deng (2006) call *school-based curriculum enactment*, which consists largely of adapting, modifying, and translating curriculum materials and resources developed or mandated by the Ministry in view of their specific school contexts and situations. SBCD is mostly a strategy employed by the Ministry to delegate a certain degree of autonomy to teachers, so as to promote school-based curriculum innovations within the existing policy and curriculum framework (cf. Westbury, 1994; also see Chapter 7). Teachers have to work in a "contradictory context of top-down versus bottom-up educational reform" (Leong, Sim, & Chua 2011, p. 51). In Singapore, SBCD is best characterized by "decentralized centralism," which gives rise to "the paradoxical situation of decentralizing curriculum powers to the school level to promote innovation but pre-empting the risk of declining standards in the absence of central quality control" (p. 59).

Enacting reform initiatives in classrooms

As we have noted, there have been sustained efforts at curriculum and pedagogy reform since 1987. Overall, while there has been some progress and a "hybrid pedagogy" is emergent, this is limited, not system wide, and falls short of the goals of the TSLN and TLLM vision (Hogan, 2011, also see Chaps 2 & 8).

In classrooms, we see little evidence of convergence with international "norms" of effective practice promulgated in the literature and with the TSLN reform vision. Hogan and colleagues find that pedagogical practices in Singapore classrooms are far from consistent with contemporary understanding of "good" pedagogy in the international literature represented, say, by Hattie's framework of "visible learning" (Chap 8). In schools and classrooms, the enacted curriculum markedly diverges from the intent of TSLN reform initiatives. For instance, the enactment of reform initiatives in language education in classrooms, according to Silver et al, is "somewhat superficial," with "little evidence of policy initiation or curriculum innovation" (Chap 9, p xx). Classroom teaching "continued to prioritise examinable subjects over holistic education, and formal assessments over other measures of learning." Lessons "were well-planned and well-managed, but rarely encouraged passionate pursuit of knowledge, higher-order thinking or openended interaction" (Chapter 9). Hogan (Chap 8) also finds that the impact of TLLM on the enacted curriculum is very limited.

The lack of reform impact on the classroom curriculum is further revealed by the empirical findings generated by the Centre for Research in Pedagogy and Practice (CRPP), based on the classroom coding and observation of 920 primary and secondary lessons from 56 schools in key curriculum areas over a two-year

period (2004-2005).ⁱ Notwithstanding multiple reform initiatives to encourage the TSLN vision, teachers in Singapore still tend to a large degree to rely on whole class forms of lesson organization, with whole class lectures and question and answer sequences (IRE) as the dominant methods. Classroom pedagogy is still largely focused on the transmission and assessment ("reproduction") of subject based curriculum knowledge (Hogan 2009). As we noted above, a mixed, distinctive "hybrid pedagogy" with a strong focus on direct instruction and traditional pedagogical practices and a much weaker focus on constructivist learning principles has emerged. There is limited formative assessment and feedback to students and high stakes summative examinations (like the PSLE [Primary School Leaving Examination], "O" and "A" levels) limit teacher efforts in pedagogical innovations (cf. Chap 2). Paradoxically, this seems to explains in part Singapore students' success in TIMSS and PISA--which leads many policy makers in the US, UK, and Australia to seek answers to their problems in the Singapore model.

The lack of reform impact on the enacted curriculum, according to Hogan et al., can be accounted for by several factors, including "neglect of the tight coupling of the national assessment system and classroom instruction," "a pervasive folk culture of teaching and learning across the system," "an implementation strategy unable to support substantial and sustainable pedagogical improvement", and "the weak professional authority of teachers" (Chap 8, p xx; also see Chaps 9 & 10).

Overall, our analysis confirms Anderson-Levitt's (2008) observation that curriculum is converging or "globalizing" at the policy level as reformers and policy-makers around the world are promoting a common set of curriculum reforms, and yet enacted curricula continue to diverge in classrooms, shaped by the distinct national and local cultures, traditions and pedagogical practices. The findings on the lack of reform impact on pedagogical practice in classrooms are consistent with what has been shown in the international literature about implementing educational and curriculum reforms (e.g., Cohen & Ball 1990; Fullan 2008; Tyack & Cuban 1995)

Issues, problems and challenges

What are the issues, problems, and challenges surrounding policy, programmatic and classroom curricula in Singapore? How can we make sense of the lack of impact of reform initiatives on what schools teach and what teachers do? How can we come to terms with the limitations of "curriculum making" at the policy level? What is entailed in translating reform initiatives into programmes, school subjects, and operational frameworks? We now address these questions in terms of policy, programmatic and classroom curricula.

The policy curriculum of TSLN—characterized by the reform vision, initiatives, and discourses—typifies what school is for in Singapore and what should be valued and sought after by Singaporeans in the era of globalization (Chaps 2 & 4). It embodies an idealized vision of schooling in relation to society and culture, or an "educational imagining," which serves to pave the way for educational and

curricular change (Chap 4). The instituting of TSLN reform entails what we call *vision-instigated curriculum making* in the social and policy arena. Through creating the TSLN vision and related discourses, the government has drawn attention to new educational ideals and expectations (embodied in the concept of TSLN and the Desired Outcomes of Education) and put forth new curriculum policies and reform initiatives to be implemented in schools and classrooms (see Chaps 2, 3, & 4)

However, this way of reforming curriculum is not without its problems. The TSLN vision and discourses are inevitably selective, foregrounding certain economic and social challenges and issues facing the nation—challenges and issues that have to do primarily with the rapid development and application of technologies, intense economic competition, unstable global economic environments, and socio-political vulnerabilities and constraints of Singapore (see Chaps 2 & 4). Other equally important socio-political and economic issues seem to be overlooked or silenced in the TSLN's vision and discourses—issues pertaining to income inequality, ethnicity and underachievement, the effect of socioeconomic status on students' academic achievement, the growth of civil society, the need to promote and strengthen inclusiveness, etc. (Chap 2). Furthermore, the issues and problems facing schools as public institutions in Singapore (e.g., the pressure of high-stakes examination, high parental expectations, the prevalence of private tutoring, the "long tail' of underachievement, and heavy teachers' workload) also do not seem to have received sufficient attention (see Chap 2). Vision-instigated curriculum making, often undertaken by elite elements in society, entails sketching an ideal curriculum at the policy arena, which is supposed to become "a template that schools should mirror and against which they can be evaluated" (Westbury 2005. pp. 97-98). Yet the complexities of schooling as a public institution, especially in a time of uncertainty and complexity, "are swept away in the name of a single vision" of what schooling ought to be (Westbury 2008, p. 49). This way of curriculum making almost always loses connections with school and classroom realities, and might account for why reform fails to create a lasting impact on classroom practice (Simola 1998).

Other kinds of issues confront programmatic curriculum making that *translates* the TSLN vision and initiatives into school programmes, subjects and operational frameworks that provide the "ultimate basis" for schools in implementing TSLN reform. Such a translation is a socio-political process involving a selection and recontextualization of socio-political ideologies that have to do with issues of distribution of power relations, ideological control, and inequality (Chaps 3, 5, & 6). Concerning translating the Desired Outcomes of Education into different programmes, Tan questions "whether the outcomes are really meant to be attained by every student, whether the various stakeholders in education truly desire these outcomes, and whether the various stakeholders are in fact equally well-placed to attain these outcomes" (Chap 3, p. xx). The translation of the critical thinking initative into the Thinking Programme, Lim argues, is aligned to the "discourse of economic imperatives," where alternative discourses like liberal democracy and critical pedagogy are silent (Chap 6). The making of the National Education curriculum, Sim argues, is driven by the government's "ideology of survival,"

"sense of vulnerability," and the perceived threat of globalization to nation building (Chap 5, p. xx) This is different from current international discourses that foregronds cosmopolitican and global citizenship education in a globalized age (Chap 10; also see Satio 2010).

Ideological and political issues aside, translating a TSLN initative (e.g., critical thinking and National Education) into programmes, school subjects, and operational frameworks entails a sopisticated undeavor of curriculum making which has to do with issues of content selection, transformation and framing in view of both the intent of the initative and the activities of teaching and learning in classrooms (Deng 2009, 2010; also see Chaps 6 & 7). However, this complex task of curriculum making tends to be bypassed in favor of simple procedural solutions. The National Education curriculum is made through prescribing "core events" and "learning journeys" according to the predetermined learning outcomes (Chap 5). Similarly, the Thinking Programme was made through prescribing a body of learning outcomes in terms of thinking skills, processes and attributes, together with pedagogical approaches to teaching thinking (Chap 6). How subject matter content can be (re)organized, transformed, and framed in a way that renders opportunities for critical and innovative thinking has not been taken into consideration (see Deng 2001, 2010). In both cases the task of curriculum making is "simplified and stripped of its complexities to facilitate the prescribed solution" (Chap 5, p xx).

The classroom curriculum, or the enacted curriculum, is the arena where most TSLN reform initiatives seek to have an impact. In classrooms, we cannot disentangle what is taught from how it is taught, or indeed, assessed. Teaching takes the form of instructional events which are fundamentally *curricular* because they reflect how a teacher interprets and enacts syllabuses and curriculum materials—embodiments of the TSLN vision, expectations and initiatives—for students of a particular age and backgrounds. The interpretation and enactment are shaped by multiple factors— students' interests and experience, instructional strategies, curriculum resources, teacher's pedagogical beliefs, practice and expertise, parental expectations, school organization, community and culture, high-stakes examinations, curriculum policies, and so forth (see Chaps 8, 9, 10, & 11). Therefore, transforming how and what classroom teachers actually teach is a highly sophisticated endeavour, which cannot be achieved by just tweaking one or two factors in isolation (see Chap 8). This can explain the lack of impact of TSLN reform initiatives on classroom practice as well.

In our view, classroom practice is nested in the socio-cultural, institutional, and instructional contexts of schooling and is, in a variety of ways, influenced by the policy, programmatic and classroom curricula. Three types of challenges pertaining to changing classroom practices can be identified based on the above discussion.

The first type of challenge concerns the need to develop curriculum policies and initiatives that are not only animated by reform visions but are grounded in a more realistic and complex understanding of schooling in relation to society and culture in the present and future. Apart from addressing questions like "What social and economic challenges are the nation facing?" and "What sorts of

knowledge and competencies would Singaporeans need to have or develop?", policymakers need to address specific issues or problems surrounding the institutions and practices of schooling in the country. Some of these issues are, for example, what are the public understandings of, and expectations for, schooling as a public institution? What are the socio-demographic, community, cultural and linguistic, and institutional factors contributing to students' academic achievement? What are the specific issues and challenges facing principals and classroom teachers within specific schools and classrooms? What constitutes the experience of schooling for the vast majority of Singaporean students? What features characterize Singaporean students at different levels, their views of the future, their aspirations? What account should we take of gender, ethnicity, and social class as we view curriculum at the three levels? These issues cannot be addressed only through surveys and/or focus group discussions, which are useful for ascertaining the strengths and concerns of the school system as a whole. They call for sophisticated empirical studies like CRPP's Core Project consisting of multilevel analyses of Singaporean schooling, pedagogy, youth and educational outcomes (Luke et al. 2005), and a willingness to listen to and act upon the data. More sophisticated research projects of this kind are needed if policymakers and reformers are to gain a more realistic, sophisticated, and contextual understanding of the work and function of Singapore schooling at the present stage of its development. Such an understanding is crucial for developing curriculum policies and initiatives that would have a sustained and meaningful impact on classroom practice (Westbury 2002).

The second type of challenge has to deal with the complex endeavour of translating a curriculum initiative into programmes, school subjects, or operational frameworks that are responsive to the present realities. This involves sophisticated "curriculum making" tasks that entail the reconceptualising, reorganising, reframing, and transforming of curriculum content in view of both the aims or expectations of the initiative and teaching and learning activities in classrooms (Deng 2009, 2010). These tasks take on greater significance in the light of the current emerging new curriculum landscape in Singapore. The creation of C2015, according to Hogan (2009), signals a transition that the Singapore curriculum needs to undertake—a transition from the transmission of academic knowledge and skills to the development of 21st century competencies. How might the C2015 learning outcomes be translated into various school subjects in the school curriculum? How might school subjects be formulated or reformulated in a way that supports the cultivation of 21st century competencies? To what extent should strong subject boundaries be maintained? How might the content of a school subject be (re)organized, framed, and transformed in view of C2015 learning outcomes, their relevance for future workplace environments, and prevalent classroom practice? Simple procedural solutions—which ignore complex conceptual issues of content reorganization, framing and transformation for the development of 21st century competencies—will not work. The success of the above transition, Hogan (2009) argues, depends on how well Singaporean policymakers and curriculum developers are able to "re-conceptualize the relationship between knowledge, teaching and learning-indeed, school subjects" in ways that support the cultivation of 21st competencies.

The third type of challenge has to do with the complexity of changing classroom practice or the enacted curriculum. There is a need for reform initiatives centred on classrooms that challenge the "pervasive folk culture of teaching and learning" and enhance "transparency and visibility" of teaching and learning in classrooms (Chap 8). These reform initiatives need to acknowledge, on the one hand, the key role of classroom teachers as curricular and pedagogical change agents (see Fullan 1993) and, on the other hand, the need for well-developed curriculum materials, frameworks or models in guiding, supporting, and enabling curricular change at the classroom level (see Ball & Cohen 1996; Davis & Krajcik 2005). Three conditions are critical. First, there needs to be coherence among new reform visions, intended outcomes, curriculum frameworks and materials, assessments and examinations, and teacher professional development. The greater the degree of misalignment, the greater the chance of different and divergent interpretations of curricular change, and thus outcomes. The current high-stakes examinations (like PSLE, the "O" and "A" levels) must be reformed and teacher professional autonomy enhanced (cf. Chap 2). Second, curriculum frameworks and materials need to be developed in a way that supports teachers' classroom enactment in view of reform visions (Cohen & Hill 2001). Curriculum frameworks and materials can be effective agents that enable classroom teachers to plan for significant change in a particular classroom context, if they were designed to "place teachers in the centre of curriculum construction and make teachers' learning central to efforts to improve instruction" (Ball & Cohen 1996, p. 7). Third, teachers need to have substantial opportunities for professional learning that are grounded in practice and in specific curricular changes (Cohen and Hill 2001; Fang, Lee & Thalha-Haron 2009). The newly established Academy of Singapore Teachers could be a stimulus for the further professionalization of the teaching force through developing professional learning communities (PLCs) in schools and the promotion of Lesson Study as an important platform for teacher learning and development. More schools in Singapore are currently embarking on Lesson Study and providing opportunities for their teachers to collaborate and re-examine curriculum and classroom practices (Lim et al. 2011).

We have sought to provide a multi-faceted and critical analysis of the Singapore curriculum within the current context of curriculum reform as a response to globalization. The issues and challenges we have identified are, of course, not unique to Singapore only; we believe they are generally useful for other countries when embarking on curriculum reform. What makes the context unique is that the Singapore system is already perceived as a successful system as shown in its performance in TIMSS and PISA (OECD 2010; also Chap 12). The various chapters of the book, we hope, will provide readers with a well-informed interpretive view of the Singapore curriculum. The conceptual framework—the three domains of curriculum together with the themes of convergence and divergence—(we believe) would be informative and useful for researchers and scholars across the globe to analyse complex issues and problems in their own countries of curriculum reform in relation to globalization. We hope as well that Singapore's achievements and challenges will be of interest to policy makers, researchers, and practitioners in other systems.

 $^{\mathrm{i}}$ See Luke et al. (2005) for a detailed description of the study.

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