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Title	School-based curriculum development in Singapore: Bottom-up perspectives of a top-down policy
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Source	<i>Curriculum Perspectives</i> , 31(1), 51-61
Published by	Australian Curriculum Studies Association

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# School-based curriculum development in Singapore: Bottom-up perspectives of a top-down policy

*Kai-Ling Leong, Jasmine B-Y Sim and Seok-Hong Chua*

## **Abstract**

GLOBALISATION HAS GENERATED an impetus for educational reforms in many countries to ensure economic survival. Singapore's Ministry of Education is encouraging innovation at the parochial level through school-based curriculum development (SBCD). This phenomenon has been well researched in countries with a tradition of decentralisation but, as it appears antithetical to Singapore's centralised system, specific research targeting the local situation is required. Using a case study approach, this research explores teachers' perspectives of their roles in SBCD and the challenges faced. Findings suggest that a form of SBCD can occur without total autonomy and that the difficulties encountered are consistent with existing literature.

**Keywords:** school-based curriculum development; teachers' perspectives

## **Introduction**

Globalisation has impelled countries to re-examine their educational systems especially as new knowledge, skills and attitudes are needed in an increasingly competitive and diversified world economy. Education is an essential agent in the development of human capital for economic growth (Sahlberg, 2006; Gopinathan, 2007) and educational reform has become a constant in policy for governments in most parts of the world. However, different educational systems generate different reform models. In the West, national curriculums are being revived after decades of decentralisation (Levin, 1998; Priestley, 2002). Studies on SBCD in Britain, Canada, Australia (Sabar, 1985; Marsh & Morris, 1991; Hui, 2006; Law et al., 2007; Marsh, 2009) are founded on traditions of local autonomy. In the East, the opposite is happening as moves are evident for greater school autonomy in curriculum decisions such as in Hong Kong, Korea and Singapore (Lo, 1999; Shih & Huh, 1991; Juang et al., 2005; Gopinathan & Deng, 2006; Mok, 2007; Tan & Ng, 2008).

In educating the future labour force, schools are the natural place where changes for the attainment of national goals are instituted. In the Singapore context, curriculum reform has to be managed within a national education system dedicated to strong quality control enforced through high-stakes examinations. Such

reform “is primarily a way of retooling the productive capacity of the system” (Gopinathan, 2007, p. 59) since maintaining economic competitiveness is a key national project. Thus in 1997, the Ministry of Education (MoE) promulgated the *Thinking Schools, Learning Nation* (TSLN) vision to steer the Singapore education system into a new phase of nurturing a critical thinking workforce and a culture of lifelong learning beyond the formal schooling years (Goh, 1997). To augment the TSLN vision, another innovation, *Teach Less, Learn More* (TLLM), was added on to foster quality engagement between teachers and learners, development of life skills, and a shift away from a grades-centric and “one-size-fits-all” paradigm of education (MoE, 2007a).

The significance of these reforms lies in the MoE pledge of top-down support for bottom-up or school-based curriculum initiatives which, according to its “TLLM Ignite!” scheme, meant teacher involvement in “designing, implementing and studying new or improved teaching and learning approaches, and may be in curriculum design, pedagogy and assessment” (MoE, 2007b, p. 1). This statement is particularly telling for it already limits teachers’ contribution to teaching and learning approaches and their contribution to curriculum design, pedagogy and assessment is only “may be”. The top-down press was evident in the requirement that schools needed to apply to this scheme for approval and funding and were required to accept expert collaboration designated by the MoE or their leadership instead of choosing their own advisors. The perception that teachers’ capability is limited to teaching and learning approaches was also found in educators. Gopinathan and Deng (2006), maintained that curriculum development in Singapore schools was mainly based on modification of externally developed materials due to its complementary status to the national curriculum and claimed that teachers would require training in curriculum theorising, new instructional repertoires and interpersonal skills to navigate through collaborative SBCD work.

### **School-based curriculum development**

The idea of school-based curriculum development resides solidly in its localised, focused approach to instruction and learning. Skilbeck (1984, p. 3) views SBCD as “the planning, design, implementation and evaluation of a programme of students’ learnings by the educational institution of which those students are members” and as a social process within the

school context. In his view, curriculum decision making is shared with stakeholders including parents, students and agencies in society, apart from the conventional ensemble of school actors. In Marsh (2009, p. 139), the author considers ‘school-based’ as “closer to the extreme of individual schools being responsible for all curriculum decisions” while ‘curriculum development’ describes the planning, design and production of materials.

In a historical review of SBCD in Australia, Canada, the United Kingdom and the United States from the 1960s onwards, Marsh et al. (1990) suggested there were three common conditions in this trend. Firstly, given the large size of the countries, educational policy and funding were managed by provincial instead of national agencies, paving the way for SBCD to operate pragmatically and to take into account the heterogeneity of learners. Secondly, support for SBCD was provided by the implementation of administrative and curricular policies. Thirdly, curriculum centres and teacher federations facilitated the rise of SBCD. Corroboration for these conditions is found in Sabar (1985, 1989) who suggested that SBCD was initiated in response to the limitations of centralised curricula in late 1950s for, despite its professional quality, the mass-produced ‘teacher-proof’ curricula that were disseminated to schools for passive enactment barely raised educational standards. Sabar noted that from the 1970s, societal changes such as democratisation and increasing professionalism of the teaching force gave increased momentum for SBCD and led to the acceptance of the legitimacy of teachers and schools participation in curriculum development. Similarly, Skilbeck (1984) reasoned that SBCD is grounded upon (1) broader social trends of increased participation and management of public life including schools, (2) inadequacy and dissatisfaction with central control of curriculum policy, (3) schools as organic systems with self-determining powers to respond to their stakeholders’ needs where, among learners, there is significant heterogeneity, and (4) as professionals, teachers with the autonomy to exercise their professional knowledge and skills in curriculum development.

Among its proponents, it was held that SBCD benefits the teaching profession as it promotes professional development with teachers’ roles redefined as curriculum developers. Though some studies affirm SBCD as a collective effort undertaken in teams, thereby supporting professional

development, (Bezzina, 1991; Law et al., 2007), it is also workable when SBCD is pioneered and dominated by one person or a few key personnel (McClelland, 1992). SBCD also benefits students who receive a customised curriculum designed with their needs in mind (Marsh, 2009).

Like schools, SBCD should be viewed as organic and susceptible to impositions such as organisational culture and policy invocations and must be understood within its highly localised field of practice (Marsh & Stafford, 1998). SBCD is a multi-layered curriculum initiative positioned along a continuum of decision making, involving multifarious actors, and taking place over a range of periods. However, from the literature summarised so far, the vital role of teachers within a context of developmental professional empowerment is obvious. How this development is realised — whether through the relatively innocuous area of materials selection and delivery, or through the more contentious areas of assessment, planning and policy — is of paramount concern for all stakeholders and deserves investigation.

### **Issues in school-based curriculum development**

In SBCD, the teacher's role becomes one of a curriculum developer with greater responsibility for deciding what students will learn (Law et al., 2007; Marsh, 2009). This gave rise to concern among experts who question teachers' competence and autonomy in interrelated aspects such as their ideals, their sense of ownership, their professional confidence and their negotiation within their organisational structure.

Bezzina (1991) found that while teachers perceived their planning role in SBCD positively, implementation as an aspect of participation was absent, implying a disconnect between the ideals of SBCD and actual practice. The organisational climate of the education system and school also affects teacher autonomy. Prideaux (1993) asserts that studies on SBCD need to take into account the subtleties of power and conflict in decision making. Brady's (2008) work indicates that, quite understandably, teachers in authority were inclined to an objective curriculum model, perceived decision making as consensus-based, and were more satisfied with innovation than younger teachers. Other studies reveal that a climate where teachers' voices are respected in curriculum construction is conducive for SBCD (Lo, 1999; Kirk & MacDonald, 2001).

On the other hand, as noted earlier, in situations where there is top-down control, such as in the Korean system, school/teacher deference to higher-level authority restrains autonomy in curriculum decision making leading to teacher passivity and low-level professionalism (Shin & Huh, in Marsh & Morris, 1991, 179). Shin and Huh urged that curriculum problems should be presented to teachers such that they come to think that the problems are theirs. Similarly, high-stakes subjects and examinations stifle innovation as is the case with SBCD in Hong Kong (Morris, 1985; McClelland, 1992; Marsh & Morris, 1991) where educational policy and decision making are still highly centralised. In McClelland's (1992) study of Hong Kong, SBCD is confined to adapting existing circumstances and arguably this is piecemeal reform. The conclusions drawn from the Korean and Hong Kong experiences raise questions for the grand vision of SBCD in Singapore. Gopinathan and Deng (2006) noted that Singapore's SBCD, with its emphasis on modification of externally developed materials, is less radical due to its complementary status to the national curriculum. It is in this contradictory context of top-down versus bottom-up educational reform that we position our study to explore teachers' perspectives on SBCD.

### **The study**

This study made use of an instrumental case study design to gain deeper insights into teachers' understandings and practice of school-based curriculum development (Yin, 1994; Stake, 1995). Given the complexity of institutional and human factors that shape curriculum work, it was decided to focus only on one school. The study is conducted in a local secondary school widely recognised as a premier institution famed for its stellar achievements in national examinations. It prides itself in constantly looking for ways to improve and excel in educational leadership through student achievement. It must be stated from the outset that this school is not, of course, representative of all secondary schools in Singapore. Nonetheless, we still located our study there because the school was amiable to our conducting the research with it. As Stake (1995, p. 3) said, it is not unusual for the choice of case to be 'no choice' at all. "Sometimes", he said, "we are given, even obligated to take it as the object to study". Indeed this was a fortuitous opportunity because it was difficult to gain access to schools.

More importantly, the school has been involved in the “TLLM Ignite” school-based curriculum development.

The school SBCD projects began in 2007 when the leadership’s application to the “TLLM Ignite” scheme was accepted and staff began discussion and planning with MoE and the designated external institutional partners. The school has two ongoing SBCD projects — the ‘Inter-disciplinary Studies Programme’ (ISP) which was initiated and implemented in 2008 and the ‘New Technology Programme’ (NTP) which was planned in 2007 and implemented in 2008. The ISP was intended as an ‘add on’ to the national curriculum at all levels from Secondary One to Four whereas the NTP was intended as an optional subject taken at national examination level from 2009 onwards. Table 1 (below) presents selected SBCD features, based on the model by Marsh et al. (1990).

The two programmes may be considered diametrically opposite in terms of administration and implementation. The ISP was conceived out of pressure to create and market new programmes that would be unique to the school to retain and attract the best students to the school. This vested interest meant greater pressure on teachers to ensure the

programme’s success. The teachers involved in the planning and development of ISP were specially selected by the school leadership based on their track record, such as their experience in Gifted Education. On the other hand, for the NTP team, the pressure from the school was comparatively lesser for although the long-term plan was for it to be an optional subject for the O levels the first intake was only 20 students. The NTP team, formed by volunteers, seemed to have more autonomy from school oversight; instead the team leader had to ensure that the external partners and the MoE received reports and updates on the programme.

Altogether, nine teacher-participants, the initiators and key personnel in the planning and development of the programmes, were purposively selected for the study. For the ISP, five teachers, including the team leader, participated in the study; for the NTP, four teachers, including the team leader, were involved. This ensured authenticity in the research (Creswell, 2005). An overview of the teams’ composition is presented in Table 2 (opposite).

The study spanned three months of data collection from July to September 2009. Data were collected using individual questionnaires, focus group discussions, interviews with the team leaders,

**Table 1.** SBCD features of ISP and NTP

	<b>Inter-disciplinary Studies Programme (ISP)</b>	<b>New Technology Programme (NTP)</b>
<b>Time commitment</b>	Long-term plan as a challenging and future-oriented curriculum for all students.	Long-term to offer this as an optional subject taken at national examination level from 2009 onwards.
<b>Activity entailed</b>	Ranging from adaptation of existing materials, such as current curriculum plans and activities, to creation of new learning modules which will be taken as enrichment classes.	Ranging from adaptation of existing materials (by expanding on the usage of new technology in present school curriculum) to creation of new materials (by creating lesson plans that encompass production skills using new technology and internships for students with external organisations).
<b>Persons involved</b>	Small groups of teachers across all academic departments.  The ISP framework and activities are conceptualised and spearheaded by the team. <b>They set the direction and facilitate implementation through selected teachers</b> from all academic departments in the school.	Small groups of teachers in one academic department.  Similar to ISP. This team is to implement the new curriculum, in partnership with an external tertiary institution.
<b>Intended learners</b>	ISP is targeted at 75% of the student population.	The NTP will be offered to only 20 students in the first intake of 2009.

**Table 2.** Composition of ISP and ITP teacher participants for the study

	Inter-disciplinary Studies Programme (ISP)	New Technology Programme (NTP)
<b>Team composition</b>	Five members including Team leader — Head of Department with curriculum design experience in a prior school. All members are i) drawn from each academic department. ii) trained to teach various subjects. iii) appointed by school leaders.	Four members including Team leader — senior member of school management. All members are i) drawn from one academic department. ii) trained to teach the same subject. iii) volunteers.
<b>Teaching experience</b>	Four members, including the leader, are trained in teaching high ability students, with more than 10 years of teaching experience. Four members have two or less years of teaching experience in the researched school.	All members, except the leader, have tertiary education in the area of New Technology. Two members have less than two years of teaching experience, the other two have more than 10 years of teaching experience.

and documents pertaining to strategic planning, curriculum matters and communication with parents. Key questions guiding the inquiry addressed how the project was initiated, membership recruitment, the planning process, project implementation, the training provided, the desired outcomes, teachers' perceptions of their roles and the difficulties they faced.

Analysis was data-driven and inductive. We unitised and categorised the data using the constant comparative method (Glaser & Strauss, 1967). The raw data was initially classified and coded with the help of Microsoft Excel. Categories emerged and were refined as the data were scrutinised repeatedly for patterns and linkages, and subsequently for different possible interpretations. Methodological triangulation of the data from the multiple sources together with member checking, maintained the credibility of the findings (Lincoln & Guba, 1985).

## Findings

Analysis of data was guided by the MoE's distinction between teachers contribution in "designing, implementing and studying new or improved teaching and learning approaches, and may be in curriculum design, pedagogy and assessment" (MoE, 2007b, p. 1). This gave rise to questions concerning how teacher competence and teacher autonomy are realised in the school context and led to three increasingly wider-ranging themes of curriculum conceptualisation, teacher ownership in SBCD and challenges in organisational culture. These themes throw light on how teachers themselves benefited from SBCD and the problems that they faced.

## Curriculum conceptualisation

*Programme initiative.* Curriculum conceptualisation involves judgements about educational objectives, content and purpose, and selection of pedagogies and school experiences (Tyler, 1949; Walker, 2003). Skilbeck (1984) and Marsh (2009) argue that SBCD provides a better match of curriculum with learners. However this is not always the case as within schools, curriculum conceptualisation can take different forms. Locally, inter-disciplinary programmes are often administratively driven by school leaders in response to inter-school competition rather than aimed at improving quality of education (Tan & Ng, 2008). One participant stated,

This project surfaced from a key area of need identified, which was to stretch our more able students and retain them in our school. We felt the threat that these students are leaving for schools with more challenging and innovative programmes. It was a case of brain drain.

In contrast, the NTP is more aptly described as a grassroots initiative by a group of teacher volunteers. One participant describes its organic development in this school this way: 'A few of us attended a talk on new technology, and we realised the potential to bring it into the classroom. When we introduced it as a workshop for students, it was very well-received.'

*Programme goals/objectives.* Diverse opinions on programme objectives were also revealed, reflecting the view of Cheung and Wong (2002, p. 226) who state "all teachers hold beliefs about how the school curriculum should be designed". The

ISP leaders spoke firmly on developing curriculum that: (1) allows students to explore their interests; (2) develops critical thinking skills; and (3) challenges students to go beyond the prescribed examination syllabus. One participant's view of the educational function was that, "in this information age, students cannot be repository of information. They have to learn the information processing skills". By crafting an open-content and process-driven curriculum, it is argued that cognitive skills can be best developed (Eisner & Vallance, 1974; McNeil, 2005). Hence, the project work within the ISP of this school is designed to allow students to research on a topic of interest; supported by lectures on research skills and in-house teacher mentors. Through ISP, high ability students are offered mentorships with university professors who are disciplinary specialists, reflecting the idea of "developing students' intellectual abilities in those subject areas most worthy of study" (Cheung & Wong, 2002, p. 226).

For the school's NTP, the social reconstructionist view of curriculum is influential in the programme rationale and design. The team leader describes the educational goal thus — "We want our students to have such social consciousness." Simultaneously, providing students with comprehensive opportunities to immerse in new technology was foremost to other members, emphasising a view of curriculum as self-actualisation (Eisner & Vallance, 1974; McNeil, 2005). One participant shared, "Curriculum should be individualised, with protected time for students to think and reflect. It should encourage creativity and knowledge creation."

**Programme design and planning.** From their reports, the ISP team was given only one month to draft the curriculum. One participant recalled, "We were tasked to do and deliver it very fast. We were expected to brief the staff quickly." Unsurprisingly, quick consensus and intuition was the modus operandi, as another described, "I searched the Internet and stumbled upon this model, which I circulated. Fortunately, it fits in very nicely with the school's vision and mission." The ISP team made use of Renzuli's model, used locally for the Gifted Education programme. This decision was made from expediency and other alternatives were not considered as the pragmatic issue of delivering the curriculum superseded the demands of careful deliberation. Such incidental practices can be a cause of concern over quality and must be addressed if SBCD is to be widely adopted.

With the NTP, programme design and planning may be even less satisfactory. Based on participants' reports, it would appear that the institutional partners assigned to work with the team by MoE had the main say. In that the assigned partners had pre-existing diploma level programmes for use, the NTP team found that they were limited to giving input on the age appropriacy on the imported syllabus and the discrete assignments set. However, it appeared that teacher input was not acted such that the NTP team felt frustrated with the curriculum. Further, as the programme is intended to become an optional O level subject, assessment was an important curriculum component. This led to a difference of opinion as the NTP team felt that individual oral presentations was a necessary component for assessment for New Technology as an applied subject whereas the assigned partners preferred a group assignment such as a technical production to evaluate students' learning. Further dissatisfaction was expressed by another participant who despaired over the imported curriculum which was not rigorous enough — "Our students are definitely capable of further critical analysis. They may find it unchallenging and start to lose interest." Considering that the school prides itself on its competitive edge and is committed to attracting the brightest students, this is a valid concern.

### **Teacher ownership**

The situation in this school affirms that SBCD promotes teacher participation in the curriculum process (Skilbeck, 1984; Sabar, 1989; Marsh & Morris, 1991). The sense of ownership is reflected in participants' readiness to engage in SBCD. Teachers' commitment is exemplified by their readiness to take on the projects as additional duties. Five out of nine participants are middle managers who already have substantial responsibilities. Also, despite being appointed to the task, none of the ISP members withdrew. Furthermore, the leadership's choice of appointing four teachers trained in teaching high ability students to the ISP team proved to be strategic. From the interviews, they are already imbued with a strong sense of agency. As one of them related, "When we saw the state of affairs of the curriculum in this school, we knew we had to do something." These teachers are innately driven by a personal mandate to raise curriculum standards. Being involved in the ISP affirmed their beliefs, allowed them to exercise their professional knowledge and be deeply engaged. One participant shared, "My

involvement is active, spanning many areas from conceptual to implementation. We talked about how to tie things together so that the programme looks coherent.” As noted earlier, these teachers seemed to be at the advanced stage of readiness for SBCD and their expertise may account for how the ISP was successfully crafted within a month.

The participants’ engagement was ensured by ownership of the curriculum and excitement in collaborating with like-minded professionals. Findings suggest participants regarded their roles in SBCD positively. For instance, contrary to the school leaders’ initial mandate, the ISP team was adamant that their curriculum should not only serve the bright students. A participant explained, “Our guiding principle was the programme has to be differentiated yet able to accommodate all the different needs of our students. We could go for an elite group but we didn’t want that to happen.” As curriculum developers, the ISP teachers took responsibility in determining what students will learn, as Marsh (2009) and Law et al. (2007) recommended, and promoted an educational stance that was harmonious with their own philosophy.

Similarly, the NTP participants’ intrinsic motivation and prior training were combined in their professional belief that the programme would provide opportunities for their students for self-actualisation. Moreover, the fact that NTP teachers are volunteers taking on extra duty attests to the strong pull of personal interest and the desire to contribute one’s talent, thus enabling teachers’ self-actualisation. “There’s the energy that comes from interest and working with the right people. You’ll be more engaged”, a participant recounted, affirming the ownership that SBCD augments in teachers over their curriculum domain. So firm is this belief that the leader elucidated, “It’s critical that the school picks the right people to move it, those with passion and interest. The teachers are able to put their talent, knowledge and experience in good use. They do it because they like it.” Another participant responded, “We were having fun. It’s teaching something different that’s really exciting.” The findings show that for SBCD to be successful teachers must have an interest in their craft and autonomy in curriculum design.

### Challenges in organisational culture

The two themes of curriculum conceptualisation and teacher ownership bear out the importance of teacher competence and teacher autonomy in SBCD.

However, as the literature on SBCD has shown, there is a need to take into account the subtleties of power and conflict in decision making in schools as organisations (Prideaux, 1993). In this study, the challenges to SBCD in the Singapore context are found in the conflicts that arose between leadership and the SBCD teams.

*Problems with top-down authority.* Ownership is a central feature of SBCD; “it is important to ensure that [SBCD teachers] feel able to exercise control and ownership of the processes of the tasks and responsibility for these and the outcomes” (Marsh et al., 1990, p. 181). Further, Marsh et al. (1990, p. 67) noted that a hierarchical school structure is “antithetical to the establishing of democratic and cooperative forms of SBCD”. The ISP team encountered problems with top-down authority two months into the implementation of its programme. Initially, administrative urgency and loose monitoring gave the ISP team much autonomy. However, frustration arose when the team was later relegated to being merely a ‘think-tank’. Their autonomy and leadership position were curtailed when school management renamed them as a conceptual team and ordered that department heads implement the curriculum instead. This move was opposed by the team; one of its members complained, “the school leadership didn’t recognise you could not have a conceptual team and implementation team”. In this situation, Marsh et al. (1990, p. 123) would advocate resolution of “the conflict between hierarchical subordination and professional status of teachers”. But confronting intricate power relations proved overwhelming. Later, the leader informally adopted the title of “resource person” to the department heads tasked with implementation, signalling a more passive stance.

The NTP team met with a comparable ironic fate. They began with the romantic belief in having free reign with the programme they envisioned and were somewhat disappointed as the reality of working with MoE set in. Whereas they had wanted to collaborate with a renowned media school in Singapore for accreditation for their programme, it was found that, having committed to TLLM Ignite, they had to abide by the terms and conditions set by the MoE and work with the assigned institutional partners and adopt the terms of reference of both. The leader stated,

The idea was to offer NTP as a subject at the national examination so the school can create its own curriculum. I wanted us to branch out

on our own, but the examination board will not allow it. They only allow it if you are working with a tertiary institution.

As with the ISP team, bureaucratic controls crept in to affect the NTP teachers' work. Disempowerment to shape curriculum design and being limited to giving verbal feedback to the assigned institutional partner was a severe setback. A disheartened participant mused that "the teachers will not even be teaching. We're mere teacher aides, running the administrative things only".

The lack of direction and involvement in forward-planning was another challenge. One ISP participant explained, "The issue is who is to champion the next phase of ISP. If the ISP team does it, it'll be taking it away from the higher management." This observation calls to question the nature and purpose of the school's SBCD efforts. The original enthusiasm, energy and high hopes have been checked and the promise of realising teacher participation effectively blighted.

## Discussion

Within the microcosm of the case study school, Marsh et al.'s (1990) three conditions for school reform were met quite broadly. The school operated pragmatically to meet with its students' needs, support and funding were provided and there was also collaboration with external institutions. However, on closer inspection, it was found that the school and teachers encountered problems in its SBCD effort. These problems arose from issues related to teacher competence and autonomy. For the purpose of discussion, SBCD success which can be assessed by means of two measures — the necessary criterion of teacher competence in contributing to "designing, implementing and studying new or improved teaching and learning approaches" and the sufficiency criterion of teacher autonomy in contributing to "curriculum design, pedagogy and assessment" (MoE, 2007b, p. 1). From the findings, it could be said that the necessary criterion — teacher competence — had been met, but the sufficiency criterion — teacher autonomy — is still in need of attention.

**Teacher competence.** Critics may rightly argue against the quality of curriculum designed by practitioners (Skilbeck, 1984) for at face value, from the data obtained, there was scant indication that the teams were guided by sound theories. Yet it has to be noted that the teachers in the ISP team had received

some prior training in curriculum design. Marsh et al. (1990) would consider these teachers to be at the advanced stage of readiness for SBCD and able to undertake leadership roles. Their expertise may account for how the ISP was successfully crafted within a month. While the NTP team might not have had formal training in curriculum design, except the team leader who was given time off to take some modules in curriculum as a 'research activist' under the TLLM Ignite, it would be a mistake to not acknowledge that the teachers felt that they knew what they were doing with the school curriculum, they knew their students (they prided themselves in that) and they had an idea of how they wanted to design the curriculum that would be interesting and would stretch the students. However, their input was constrained as they could not say much about a curriculum that was imposed by the assigned institutional partner.

This study confirms one of the strongest claims for SBCD, that it promotes professional development with teachers' roles redefined as curriculum developers. Participants involved in the SBCD projects in the case study school had positive views of their role, driven by a sense of self-empowerment founded on their own sense of professional efficacy and their confidence that they were the ones who knew best what their students needed. These projects fostered teachers' self-actualisation as they shared their interest with students and invested their professional expertise into current work. In the case of the school being studied, it is evident that teachers have advanced beyond a nascent stage of SBCD where attention was mainly on materials modification, techniques and strategies for effective teaching and learning. What they lack, within this area, is training in curriculum design and formal induction into its discourse and concerns. More importantly, in what may be considered an emergent form of SBCD, the teachers in the study were drawn into the policy and implementation aspects of SBCD and their consciousness has been raised regarding their place in the scheme of things in educational reform.

The teachers in the study had much confidence in their professional expertise. This finding poses significant implications for teacher selection for SBCD. While the researched school is fortunate to have these expert practitioners to helm SBCD, other schools should select the teachers carefully and provide adequate professional development. As in curriculum conceptualisation, without available

time, professional knowledge and staff with high levels of readiness, it will be more difficult to initiate and sustain quality SBCD. One point to consider is whether, in centralised systems, the best means to ensure SBCD success is to select senior teachers to lead such projects.

Further, although the literature emphasised the importance of training in curriculum development, it is to be wondered if those at middle level leadership, or even the principal level should have some knowledge of the principles of curriculum design and development at the school level. From the study, it was clear that apart from the group of teachers directly involved in SBCD, the middle management upwards were unable to provide advice or guidance. Thus, the ISP team relied on their collective years of experience teaching students in the gifted programme and what was intuitive to them, i.e. the teaching and curriculum development practices they had internalised when they were trained as Gifted Education (GE) teachers. The NTP team were even more limited in this area even though they were all very knowledgeable in their subject area (New technology).

**Teacher autonomy.** Many studies have warned against the politics of collaboration. The attempt to install SBCD brought forth issues of leadership and bureaucratic control to the fore. Teachers' involvement in curriculum development was found to be limited as bureaucratic control set in. Kirk and Macdonald (2001, p. 555) state that 'if teachers are to be partners in the reform process and to have ownership of reforms', they must be given the chance to enact the curriculum. Though schools are urged to diversify their curriculum, the MoE appears to lag behind its ideals as it sets terms and conditions to guard against schools straying from mainstream education (Tan & Ng, 2008). Given that Singapore's system is prized for its competitiveness and primacy of national outcomes, the MoE is not prepared for complete decentralisation yet. In not allowing schools to forge their own affiliations, the categorical prescription of institutional partners for schools to work with under the TLLM scheme (MoE, 2006) is arguably a form of centralising control. This concurs with Karlsen's (cited in Tan & Ng, 2007) view of 'decentralised centralism' which refers to the paradoxical situation of decentralising curriculum powers at the school level to promote innovation but pre-empting the risk of declining standards in the absence of central quality control. However,

interestingly, it would appear from teachers' comments that they are more knowledgeable regarding the needs and the ability of their students. Consequently, the assigned institutional partner's syllabus was found to be inadequate, and their preferred institutional partner would have been a better match.

Marsh et al. (1990) argue that one of the conditions of successful SBCD was that curriculum centres and teacher federations facilitated the rise of SBCD. In the present instance however, the official requirement of an advisory audit, or even what might be viewed as a takeover by external tertiary institutions subverts the potential for fruitful relationships and collaboration between teachers and such relevant bodies, since the former has been effectively subordinated, marginalised and disempowered by the latter. Such an SBCD presents false hope to stakeholders, including teachers and students.

Both teams indicated the necessity of practical support from the school which entails recognising their projects as part of their teaching duties and formalising of their contribution within the school organisation. The lack of role clarity within the school hampered subsequent ISP implementation when it became uncertain whether the team was still operational. The absence of clear direction about their function and an environment with limited means with which to raise these issues undermined the ISP team's efforts. The NTP team also grappled with issues of power. The enforced partnership with a designated institute led to their disappointment over their limited influence. As such, SBCD presents false hope to stakeholders, including teachers and students for while the top-down part of SBCD is relatively easy to set in motion, the reciprocal bottom-up SBCD aspects have yet to be effectively channelled. In which case, SBCD will not advance beyond what Marsh et al. (1990, p. 120) refers as "a cut and paste of past practice". It remains to be seen how these teachers, and others in similar circumstances, will proceed with SBCD projects in the future if conditions remain unchanged.

Still, the teachers remain hopeful about their roles in conceptualising the curriculum within the scope they are granted. Looking forward, instead of being at the receiving end, teachers may look to developing themselves in negotiating and opening a lateral space for their innovations and their views to anticipate future opportunities for bottom-up feedback and curriculum change. This space would

involve professional presence in the form of discussion, exchange and collaboration within as well as beyond the school they are in. This would be valuable capital as they learn to cross-over between teaching in school and sharing their expertise in educational centres and teacher federations as well as preparing for leadership roles that they themselves may assume in the future.

## Conclusion

While acknowledging qualitative studies have limited powers of generalisation, this study has shed some light on teachers' perspectives on SBCD in one school. Though the case study is limited to one local school, it is hoped that the issues identified are informative for subsequent projects and future research, especially in SBCD in centralised systems. Although curriculum partnership entails the "integration of 'top-down' and 'bottom-up' strategies for reform in education, bringing together a range of stakeholders who each have an interest in the nature of change in schools" (Kirk & Macdonald, 2001, p. 553) this ideal is still to be achieved.

SBCD is systemic transformation and for a centralised education system, such reform is bound to encounter problems in top-down and bottom-up communication. One inescapable message for the two teams involved in SBCD in the study is that it is easier for schools to engage in piecemeal SBCD rather than attempt the more ambitious promises of this approach for even as the Singapore education system moves towards decentralisation, the stringent enforcement of quality control and accountability aimed at maintaining standards and competitiveness means that Singapore schools are not yet permitted to wholly design and evaluate their curriculum, the most ambitious form of SBCD. There is broad scope for research as SBCD in Singapore is only emerging. Investigating the exercise of control which is against the grain of SBCD is one direction. Others include the organisational structure and climate that will enable SBCD to thrive at the school level. Not least, studies need to address whether students truly benefit from school-based curriculum.

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